Sun microsystems

StorageTek™ Crypto Key Management System (KMS)

Administration Guide

Part Number: 316195101
Revision: A
Version: 2.0

Crypto Key Management System (KMS)

Administration Guide

Version 2.0

Sun Microsystems, Inc.
www.sun.com

Part No. 316195101
February, 2008

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Notices

Please read the following compliance and warning statements for this product.

Caution – *Potential equipment damage:* Cables that connect peripherals must be shielded and grounded; refer to descriptions in the cable instruction manuals. Operation of this equipment with cables that are not shielded and not correctly grounded might result in interference to radio and TV reception.

Changes or modifications to this equipment that are not expressly approved in advance by StorageTek will void the warranty. In addition, changes or modifications to this equipment might cause it to create harmful interference.

United States FCC Compliance Statement

The following compliance statement pertains to Federal Communications Commission Rules 47 CFR 15.105:

Note – This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his or her own expense.

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This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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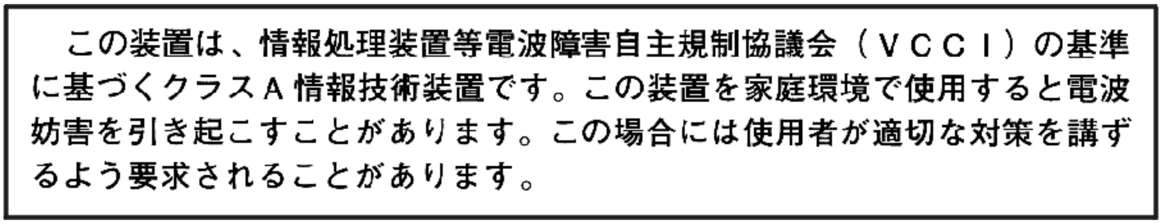
The following compliance statement in Japanese pertains to VCCI EMI regulations:



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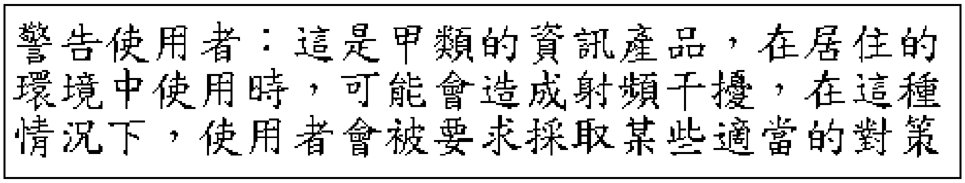
The following warning label statement pertains to BSMI regulations in Taiwan, R.O.C.:



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English translation: This is a Class A product. In a domestic environment, this product may cause radio interference, in which case, the user may be required to take adequate measures.

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The following is the Internal Code License Agreement from StorageTek:

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Revision History

EC	Date	Revision	Description
000227	February, 2008	A	*Crypto Key Management System 2.0 Administration Guide*

Contents

Figures

Tables

Preface

Audience

This guide provides configuration and administration information for Sun Microsystems StorageTek™ Crypto Key Management System (KMS) software. It is intended for storage administrators, system programmers and operators responsible for configuring and maintaining the KMS software at their site.

Organization of This Guide

This guide contains the following chapters:

- Introduction
- Getting Started
- Using the KMS Manager
- Using the System Menu
- Security Officer Operations
- Compliance Officer Operations
- Operator Operations
- Backup Operator Operations
- Auditor Operations
- Using the KMS Console

An index and glossary are also included.

Additional Information

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The Sun StorageTek product Customer Resource Center (CRC) is a Web site that enables members to resolve technical issues by searching code fixes and technical documentation for StorageTek brand products. CRC membership entitles you to other proactive services, such as HIPER subscriptions, technical tips, answers to frequently asked questions, addenda to product documentation books, and online product support contact information. Customers who have a current warranty or a current maintenance service agreement may apply for membership by choosing on the Request Password button on the CRC home page. Sun employees may enter the CRC through the SunWeb PowerPort.

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To contact Sun Microsystems StorageTek Support about a problem:

1. Use the telephone and call:

   ☎ **800.872.4786 (1.800.USA.4SUN)** (inside the United States)

   ☎ **800.722.4786** (Canada)

   For international locations, go to
   http://www.sun.com/service/contacting/solution.html
   for the appropriate telephone number

2. Describe the problem to the call taker. The call taker will ask several questions and will either route your call to or dispatch a support representative.

   If you have the following information when you place a service call, the process will be much easier:

Account name ______________________

Site location number ______________________

Contact name ______________________

Telephone number ______________________

Equipment model number ______________________

Device address ______________________

Device serial number (if known) ______________________

Urgency of problem ______________________

Fault Symptom Code (FSC) ______________________

Problem description ______________________

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You may contact any of Sun's worldwide offices to discuss complete storage, service, and support solutions for your organization. You can find address and telephone number information on Sun's external Web site at:
http://www.sun.com/worldwide/

Related Publications

The following publications provide additional information about specific topics relating to the use of the Key Management System (KMS):

- *Key Management System (KMS) 2.0 Installation and Service Manual*
- *Key Management System (KMS) 2.0 Systems Assurance Guide*.

Conventions for Reader Usability

Product Names

KMS refers to the 2.0 implementation of the Sun StorageTek™ Crypto Key Management System.

Typographic

Some examples in this guide include *italic* type. Italic type is used to indicate a variable. You must substitute an actual value for these variables.

The use of mixed upper and lower case characters for commands, control statements, and parameters indicates that lower case letters may be omitted to form abbreviations. For example, you may simply enter POL when executing the POLicy command.

Alert Messages

Alert messages call your attention to information that is especially important or that has a unique relationship to the main text or graphic.

Warning – Information necessary to keep you from damaging your hardware or software.

Caution – Information necessary to keep you from corrupting your data.

Tip – Information that can be used to shorten or simplify your task or they may simply be used as a reminder.

Note – Information that may be of special interest to you. Notes are also used to point out exceptions to rules or procedures.

CHAPTER 1

Introduction

Overview

The Crypto Key Management System (KMS) creates, stores, and manages encryption keys. It consists of the following components:

- Key Management Appliance (KMA) — A security-hardened box that delivers policy-based Lifecycle Key Management, authentication, access control and key provisioning services. As a trust authority for storage networks, the KMA ensures that all storage devices are registered and authenticated, and that all encryption key creation, provisioning and deletion is in accordance with prescribed policies.
- KMS Manager GUI — A Graphical User Interface that is executed on a workstation and communicates with the KMA over an IP network to configure and manage the KMS. The KMS Manager GUI must be installed on a customer-provided workstation.
- KMS Cluster — The full set of KMAs in the system. All of these KMAs are aware of each other and replicate information to each other.
- Agent — A device or software the performs encryption, using keys managed by the KMS Cluster. For KMS 2.0, these are the StorageTek encrypting tape drives. Agents communicate with KMAs via the Agent API. This a set of software interfaces that are incorporated into the agent hardware or software.

KMS Concepts

KMS Clusters

KMS supports clustering multiple KMAs, which provides load balancing and failover. All KMAs in a KMS Cluster act in an active/active manner. All KMAs can provide all capabilities to any agent. Actions performed on one KMA are quickly replicated to all other KMAs in the cluster.

Agents

Agents perform cryptographic operations, specifically, encrypting data as its written and decrypting data as its read. Agents contact the KMS cluster in order to create and retrieve keys used to perform the cryptography.

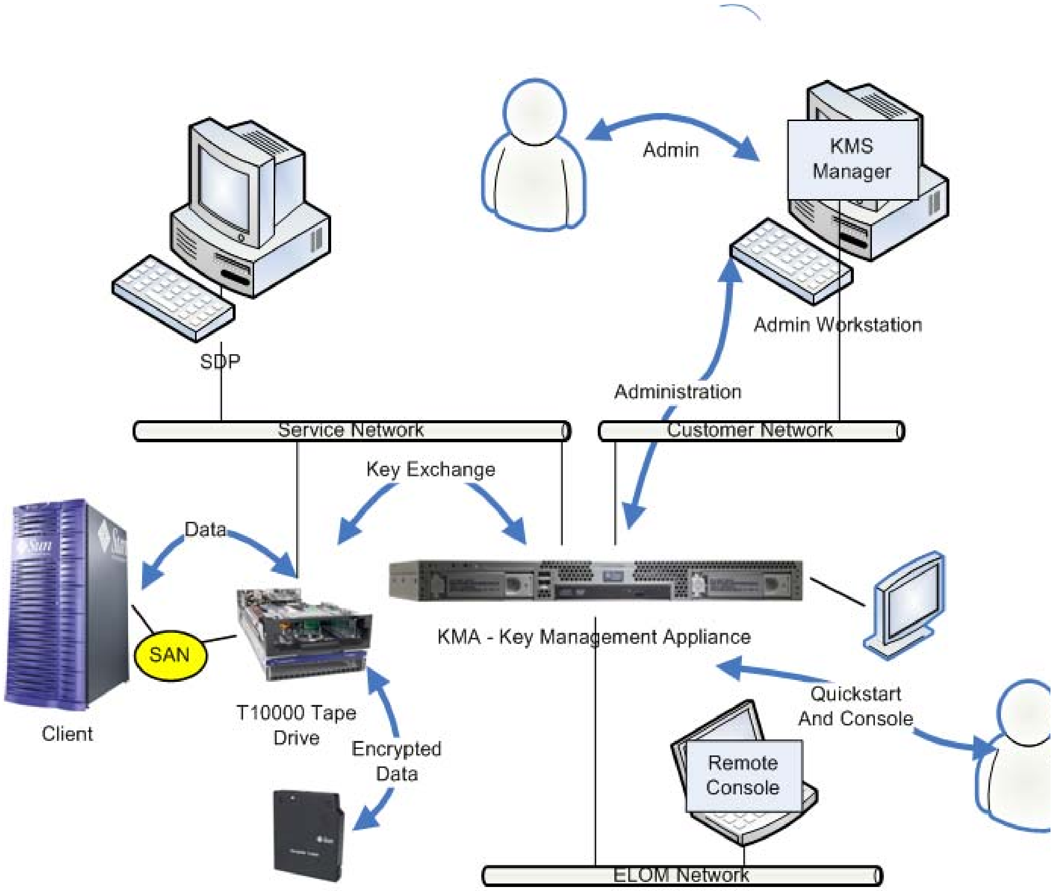
Network Connections

The KMS uses TCP/IP networking for the connections between KMAs, Agents, and machines where the KMS Manager GUI is running. In order to provide flexible network connections, two interfaces are provided for network connections on the KMA:

- the management connection, intended for connection to the customer network
- the service connection, intended for connection to the tape drives.

With production KMA installation, library-specific accessory kits are available that include switches and cables for connecting to the drives and the KMA. This is shown in FIGURE 1-1.

FIGURE 1-1 Connections to the KMA



Initial Setup - Direct Connection or Remote Console (ELOM)

KMA initial setup is performed through the console connection. This can be done by using a monitor and keyboard connected directly to the KMA or by the remote console function in the Embedded Lights Out Manager (ELOM). The ELOM provides a remote connection to the console allowing you to perform server functions.

The ELOM remote console function requires a third network connection, labeled the “ELOM Network” in FIGURE 1-1. The ELOM's IP address must be configured as described later in this document in order to use the remote console function.

Note – Most commonly, the ELOM Network will actually be the same network as the customer network.

Initial Setup - QuickStart Program

When a KMA in the factory default state is powered on, a wizard function called QuickStart will run on the console to perform the initial setup. Once complete, most other functions can be done from the KMS manager GUI. A limited function console interface remains active for a small set of functions.

Key Lifecycle

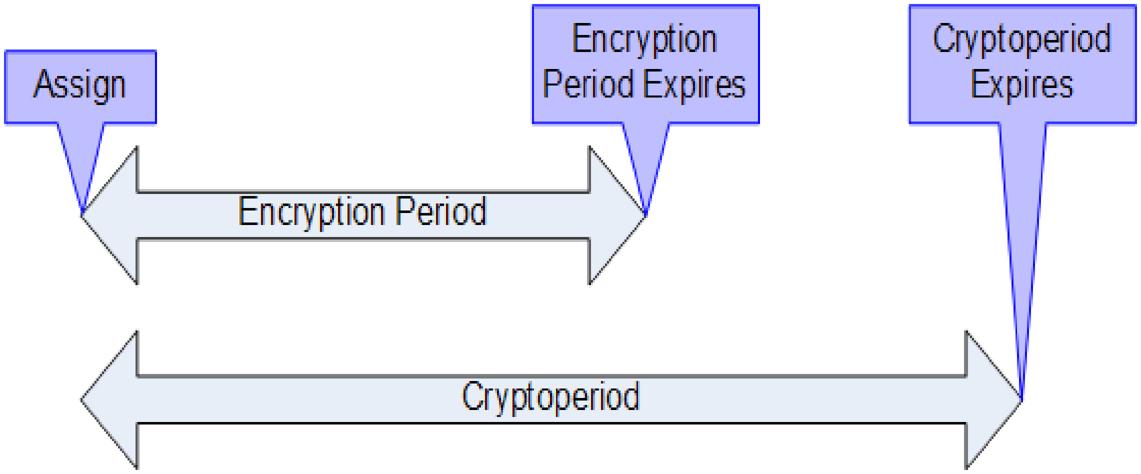
Keys undergo a lifecycle based on the key policy. The lifecycle imposed by the KMS is based on the NIST 800-57 guidelines. A few additional states are added to deal with nuances of the KMS.

The key lifecycle is based on two time periods (see FIGURE 1-2) defined in the key policies:

- encryption period
- cryptoperiod

The encryption period is the period of time after a key is assigned that it can be used to encrypt data. The cryptoperiod is the time period it can be used for decryption. It is assumed the two periods start at the same time when the key is assigned.

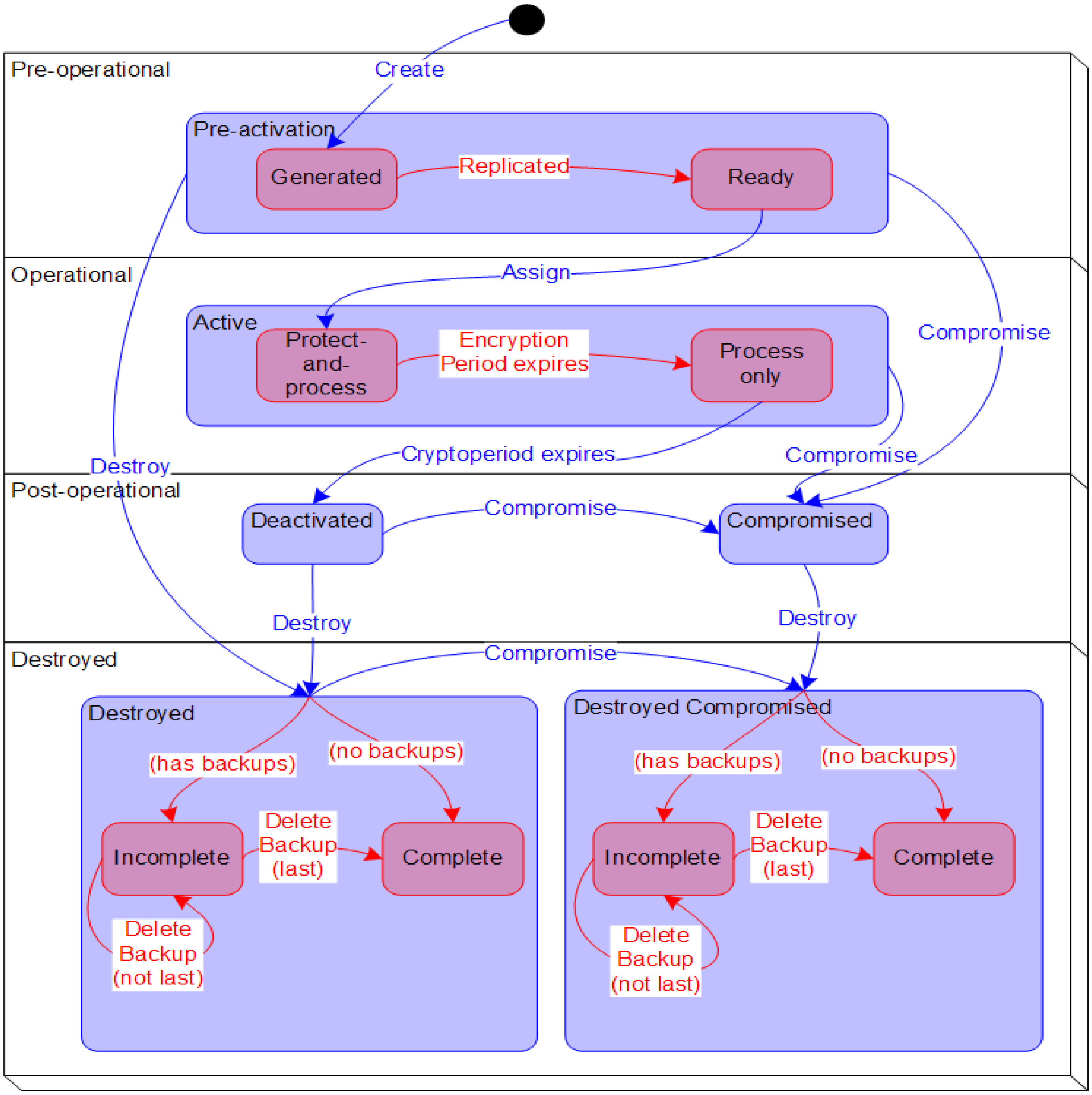
FIGURE 1-2 Key Lifecycle Periods



State Transition

These encryption period and cryptoperiod time periods, combined with other functions of the KMS, define a state transition for keys as shown in FIGURE 1-3. In this diagram, states and transitions shown in blue are defined by NIST 800-57.

FIGURE 1-3 State Transition Diagram



KMS States and Transitions

In FIGURE 1-3, states and transitions shown in red are added by the KMS. When examining keys in the KMS Manager, only the innermost state is listed. KMS states are listed below.

Pre-activation

The key has generated but is not yet available for use. Within the pre-activated state, the KMS adds two more detailed states, generated and ready.

Generated

A generated key is a key that has been created on one KMA in a KMA cluster. It remains generated until it has been replicated to at least one other KMA in a multi-KMA Cluster. In a Cluster with only a single KMA, a key must be recorded in at least one backup to transition out of the generated state.

Ready

A ready key is one that has been protected against loss by replication or a backup. A ready key is available for assignment. The "replicated" transition occurs when the key is replicated or (for a single KMA Cluster) backed up.

Active

The key may be used to protect information (i.e., encrypt) or to process previously protected information (i.e., decrypt.) NIST states that an active key may be designated for protect only, process only, or protect and process. Further, it specifically states that for symmetric data encryption keys, a key may be used for some time period to protect and process information and once this time period expires, the key may continue to be used for processing only.

Within the active state, the KMS adds two substates. These states are described in NIST, but are not specifically identified as states.

Protect-and-process

A key in this state can be used for both encryption and decryption. A key is placed into this state when it is assigned. The assignment is done when an encryption agent requests a new key to be created.

Process only

A key in this state can be used for decryption but not encryption. When an agent determines that none of the keys available to it (e.g., for a specific data unit that is being read or written) are in the protect-and-process state, it should create a new key. Keys transition from protect-and-process to process only when the encryption period for the key expires.

Deactivated

The key has passed its cryptoperiod but may still be needed to process (decrypt) information. NIST specifically states that keys in this state may be used to process data.

Strictly speaking, the NIST guidelines state that if post-operational keys, including deactivated and compromised keys, need to remain accessible, they should be archived. This is a key recovery process that allows keys to be recalled from an archive and made available for use.

The KMS provides archives in the form of KMA backups but cannot recall a single key from a backup. Therefore, the KMS retains post-operational phase keys in the KMS Cluster and delivers them upon request from an agent.

Compromised

Keys are compromised when they are released to or discovered by an unauthorized entity. Compromised keys should not be used to protect information, but may be used to process information.

Destroyed

Destroyed keys no longer exist, however, information about the key may be retained. In KMS 2.0, key material from destroyed keys is removed from the KMS Cluster. Destroyed keys will not be delivered to an agent.

Note – The only way to destroy a key is through the GUI or the management API.

The NIST guidelines do not appear to provide any basis for destroying keys based on time.

Within the Destroyed and Destroyed Compromised states, the KMS defines two substates. These states are created because the KMS does not control the backups that it creates. A customer administrator must inform the KMS when a backup has been destroyed. Only after all backups have been destroyed can a key be considered truly destroyed. These substates are incomplete and complete.

Incomplete

At least one backup still exists that contains the destroyed key. In this substate, the key does not exist in any KMA in the KMS Cluster. Keys in this state cannot be delivered to agents.

Complete

All backups containing the key have been destroyed. The key does not exist in any KMA, nor in any backup. Strictly speaking, backups that contain the key may well still exist. All the KMS knows is that it has been told the backups have been destroyed. It is the responsibility of the user to ensure these backups have actually been destroyed.

It is worth noting again that the "destroyed" transition occurs only as the result of an administrative command. Further, keys may still be delivered to an encryption agent when the key is in the post-operational phase (Deactivated and Compromised states.) This interpretation is consistent with NIST's descriptions for the post-operational phase. The NIST guidelines specify that a post-operational key should be destroyed when it is "no longer needed." We believe that only a user can determine when a key is "no longer needed," so only an external entity can initiate the destroyed transition.

Destroyed Compromised

This is the same as destroyed, but the key was compromised before or after destruction.

Users and Role-based Access Control

The KMS provides the ability to define multiple users, each with a user ID and passphrase. Each user is given one or more pre-defined roles. These roles are:

- Security Officer — performs KMS setup and management
- Operator — performs agent setup and day-to-day operations
- Compliance officer — defines key groups and controls agent access to key groups
- Backup operator — performs backup operations
- Auditor — can view system audit trails

During the QuickStart process, a Security Officer is defined. Additional users may be defined after QuickStart is complete using the KMS Manager GUI.

Allowed Operations for Each Role

The list of functions allowed for each role appears in TABLE 1-1 on page 14. In the GUI and the console, only the allowed operations are shown. It is possible for an operation to be displayed, and then to fail when attempted. This can occur if roles are removed from a user between the time when the display is shown and when the operation is attempted.

All roles except auditor are required to create a functioning encryption system. Distinct users may be created, each with one role. Or, multiple roles may be given to a user.

Quorum Protection

The KMS also provides quorum protection for certain operations. A quorum of up to 10 users can be defined. A threshold from one to the number of quorum users is also defined. This information is called the Key Split Credentials. The user IDs and passphrases are distinct from the user IDs and passphrases used to log into the system. When attempting an operation that requires quorum approval, a screen will be displayed that allows each quorum user to input their userid and passpharse. At least the specified threshold of userids and passphrases must be supplied for the operation to be allowed.

Data Units, Keys, Key Groups, and Key Policies

Data units are used to represent data that is encrypted by agents. For tape drives, a data unit is a tape cartridge, and data units are always present. This is not a fundamental requirement, and future agents may operate without defining data units.

Keys are the actual key values (key material) and their associated metadata.

Key policies define parameters that govern keys. This includes lifecycle parameters (encryption period and cryptoperiod) and export/import parameters (import allowed, export allowed.)

Key groups associate keys and key policies. Key groups have a specific key policy and are assigned to agents. Each agent has a list of allowed key groups. Agents are allowed to retrieve only the keys that are assigned to one of the agent's allowed key groups. Agents also have a default key group. When an agent creates a key (more specifically, assigns it to a data unit), the key is placed into the agent’s default key group. There is functionality in place to allow more sophisticated control of key groups by agents. However, existing agents cannot leverage this functionality.

In order for the system to function, at least one key policy and one key group must be defined. That key group must be assigned as the default key group for all agents.

TCP/IP Connections and the KMA

If a firewall exists between the entity (listed on the left) and the KMA, the firewall must allow the entity to establish TCP/IP connections with the KMA on the following ports:

- KMS Manager-to-KMA communication requires ports 3331, 3332, 3333, 3335
- Agent-to-KMA communication requires ports 3331, 3332, 3334, 3335
- KMA-to-KMA communication requires ports 3331, 3332, 3336.

KMS in the Network

FIGURE 1-4 shows a typical deployment of the KMS solution.

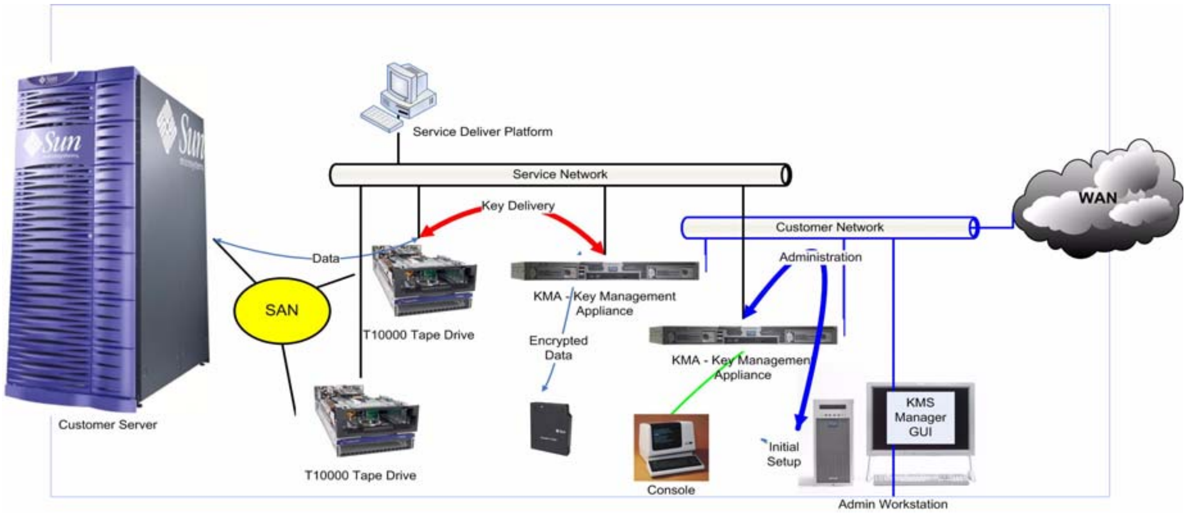


FIGURE 1-4 Typical Deployment of KMS Solution

KMS Manager Software Requirements

To run the KMS Manager, you need a workstation that is running Microsoft® Windows XP, Solaris 10 x86 update 3, or Solaris 10 x86 update 4.

Using Online Help

The KMS Manager includes comprehensive online help. To display help on any KMS Manager screen,

- choose the **Help** button that is located at the top of the panel for general help

or

- navigate to a panel by either pressing the **Tab** key or by clicking somewhere within the panel. Then, click **F1** to view context-sensitive help.

Role-Based Access Control

KMS defines the following roles:

- **Security Officer** Manages security settings, users, sites, and transfer partners
- **Compliance Officer** Manages key policies and key groups and determines which agents and transfer partners can use key groups
- **Operator** Manages agents, data units, and keys
- **Backup Operator** Performs backups
- **Auditor** Views information about the KMS Cluster.

A single KMA user account may be assigned membership to one or more roles. The KMA verifies that the requesting user entity has permission to execute an operation based on the user's role(s). For more information on the roles, refer to"Logging into the KMA" on page 268.

Role-Based Operations

TABLE 1-1 shows the system operations that each user role can perform. In the "Roles" columns,

- **Yes** means the role is allowed to perform the operation.
- **Quorum** means the role is allowed to perform the operation but must also provide a quorum.
- **Blank** means the role is not allowed to perform the operation.

TABLE 1-1 System Operations/User Roles

Entity	Operation	Roles				
		Security Officer	Compliance Officer	Operator	Backup Operator	Auditor
Console						
	Log In	Yes	Yes	Yes	Yes	Yes
	Set KMA Locale	Yes				
	Set KMA IP Address	Yes				
	Enable Tech Support	Yes				
	Disable Tech Support	Yes		Yes		
	Enable Primary Administrator	Yes				
	Disable Primary Administrator	Yes		Yes		
	Restart KMA			Yes		
	Shutdown KMA			Yes		
	Log KMS into Cluster	Quorum				
	Set User's Passphrase	Yes				
	Reset KMA	Yes				
	Zeroize KMA	Yes				
	Logout	Yes	Yes	Yes	Yes	Yes
Connect						
	Log In	Yes	Yes	Yes	Yes	Yes
	Create Profile	Yes	Yes	Yes	Yes	Yes
	Delete Profile	Yes	Yes	Yes	Yes	Yes
	Set Config Settings	Yes	Yes	Yes	Yes	Yes
	Disconnect	Yes	Yes	Yes	Yes	Yes
Key Split Credentials						
	List	Yes				
	Modify	Quorum				
Autonomous Unlock						

TABLE 1-1 System Operations/User Roles

Entity	Operation	Roles				
		Security Officer	Compliance Officer	Operator	Backup Operator	Auditor
	List	Yes				
	Modify	Quorum				
Lock/Unlock KMA						
	List Status	Yes	Yes	Yes	Yes	Yes
	Lock	Yes				
	Unlock	Quorum				
Site						
	Create	Yes				
	List	Yes		Yes		
	Modify	Yes				
	Delete	Yes				
Security Parameters						
	List	Yes	Yes	Yes	Yes	Yes
	Modify	Yes				
KMA						
	Create	Yes				
	List	Yes		Yes		
	Modify	Yes				
	Delete	Yes				
User						
	Create	Yes				
	List	Yes				
	Modify	Yes				
	Modify Passphrase	Yes				
	Delete	Yes				
Role						
	List	Yes				
Key Policy						
	Create		Yes			
	List		Yes			
	Modify		Yes			
	Delete		Yes			
Key Group						
	Create		Yes			
	List		Yes	Yes		

TABLE 1-1 System Operations/User Roles

		Roles				
Entity	Operation	Security Officer	Compliance Officer	Operator	Backup Operator	Auditor
	List Data Units		Yes	Yes		
	List Agents		Yes	Yes		
	Modify		Yes			
	Delete		Yes			
Agent						
	Create			Yes		
	List		Yes	Yes		
	Modify			Yes		
	Modify Passphrase			Yes		
	Delete			Yes		
Agent/Key Group Assignment						
	List		Yes	Yes		
	Modify		Yes			
Data Unit						
	Create					
	List		Yes	Yes		
	Modify			Yes		
	Modify Key Group		Yes			
	Delete					
Keys						
	List Data Unit Keys		Yes	Yes		
	Destroy			Yes		
	Compromise		Yes			
Transfer Partners						
	Configure	Quorum				
	List	Yes	Yes	Yes		
	Modify	Quorum				
	Delete	Yes				
Key Transfer Keys						
	List	Yes				
	Update	Yes				
Transfer Partner Key Group Assignments						
	List		Yes	Yes		
	Modify		Yes			
Backup						

TABLE 1-1 System Operations/User Roles

Entity	Operation	Roles				
		Security Officer	Compliance Officer	Operator	Backup Operator	Auditor
	Create				Yes	
	List	Yes	Yes	Yes	Yes	
	List Backups with Destroyed Keys		Yes	Yes		
	Restore	Quorum				
	Confirm Destruction				Yes	
Core Security Backup						
	Create	Yes				
SNMP Manager						
	Create	Yes				
	List	Yes		Yes		
	Modify	Yes				
	Delete	Yes				
Audit Event						
	View	Yes	Yes	Yes	Yes	Yes
	View Agent History		Yes	Yes		
	View Data Unit History		Yes	Yes		
	View Data Unit Key History		Yes	Yes		
System Dump						
	Create	Yes		Yes		
System Time						
	List	Yes	Yes	Yes	Yes	Yes
	Modify	Yes				
NTP Server						
	List	Yes	Yes	Yes	Yes	Yes
	Modify	Yes				
Software Version						
	List	Yes	Yes	Yes	Yes	Yes
	Upgrade			Yes		

Setting Up and Managing the Key Management Appliance

For procedures on getting your KMS solution installed and configured as quickly and easily as possible, refer to the *KMS 2.0 Installation and Service Manual*.

CHAPTER 2

Getting Started

This chapter describes the following topics:

- starting the Embedded Lights Out Manager (ELOM) — ELOM provides a remote connection to the console
- running the QuickStart program — QuickStart is a utility that a CSE uses to configure a new KMA.

Starting the Embedded Light Out Manager (ELOM)

The Embedded Lights Out Manager (ELOM) system contains a separate processor from the main server. As soon as power is applied (plugged-in), and after a one or two minute boot period, ELOM provides a remote connection to the console allowing you to perform server functions, such as the *QuickStart* program.

Note – Refer to the *KMA Installation and Service Manual* for some basic ELOM commands to configure the server. For more information, see the *Embedded Lights Out Manager Administration Guide*.

Connecting to the KMA

Connect to the KMA through the Embedded Lights Out Manager using either:

- the network connection—LAN 1 NET MGT ELOM interface—(suggested), or
- the keyboard and monitor attached to the KMAs.

☞ **Popup blockers** will prevent Windows from launching in the following procedures. Disable the popup blockers before beginning.

If the window appears, but a console window does not, the Web browser or Java version is incompatible with the ELOM. Upgrade to the latest versions of the browser and Java. See TABLE 2-1 for a list of compatible versions.

TABLE 2-1 Compatible Web Browser and Java Versions

Client OS	Java Runtime Environment Including Java Web Start	Web Browsers
■ Microsoft Windows XP Pro	JRE 1.5 (Java 5.0 Update 7 or later)	■ Internet Explorer 6.0 and later Mozilla 1.7.5 or later ■ Mozilla Firefox 1.0
■ Red Hat Linux 3.0 and 4.0		■ Mozilla 1.7.5 or later ■ Mozilla Firefox 1.0
■ Solaris 9 ■ Solaris 10 ■ SUSE Linux 9.2		■ Mozilla 1.7.5
You can download the Java 1.5 runtime environment at: http://java.com The current version of the ELOM guide is located at: http://dlc.sun.com/ You can download Sun Fire X2100 M2 Server documentation at: http://docs.sun.com/app/docs/coll/x2100m2		

Using a Network Connection

1. Using another workstation on the network, launch a Web browser.
2. Connect to the KMA ELOM using the IP Address or hostname of LAN 1 (NET MGT)—the address just configured.

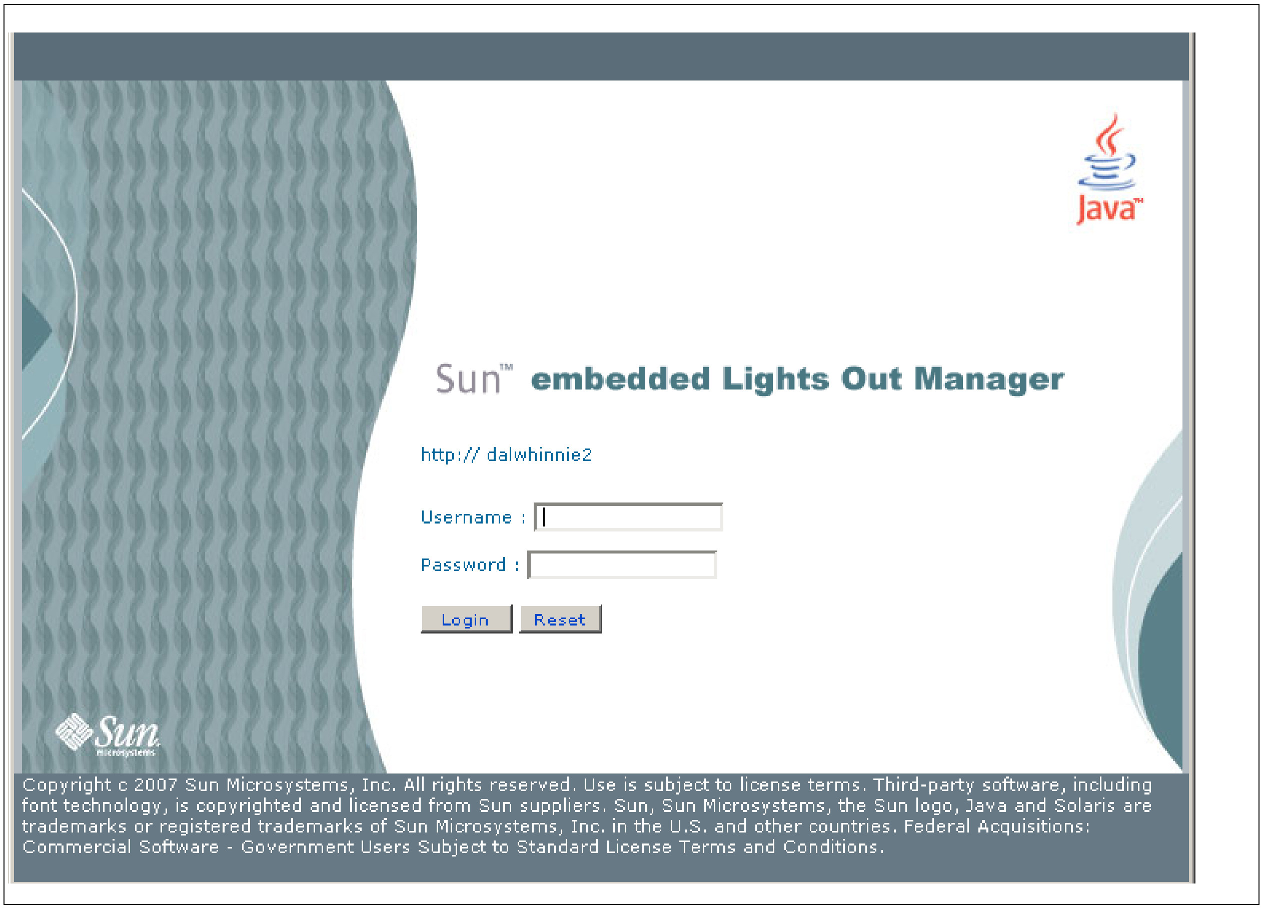
Note – Because the certificate in the ELOM will not match the assigned name or IP, you will receive one or more warnings from your web browser.

---

3. Click OK or Yes to bypass these warnings.

   Once past the warnings, you will receive the ELOM login prompt.

FIGURE 2-1 Embedded Lights Out Manager Login Screen



Sun™ embedded Lights Out Manager

http:// dalwhinnie2

Username :

Password :

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4. Log in using:

   Userid = `root`

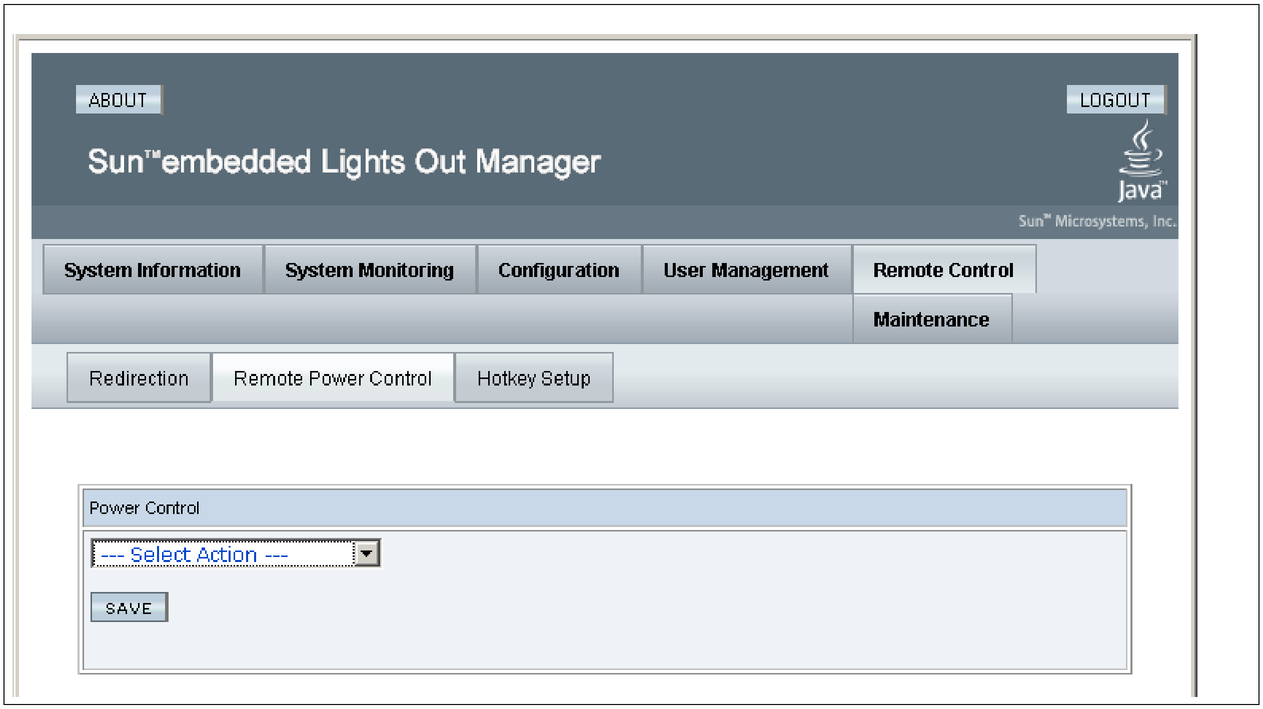
   Password = `changeme`

   The next screen is the Manager Screen. If the server has just been connected to power, and it has not been powered on, it will not have completed a system boot.

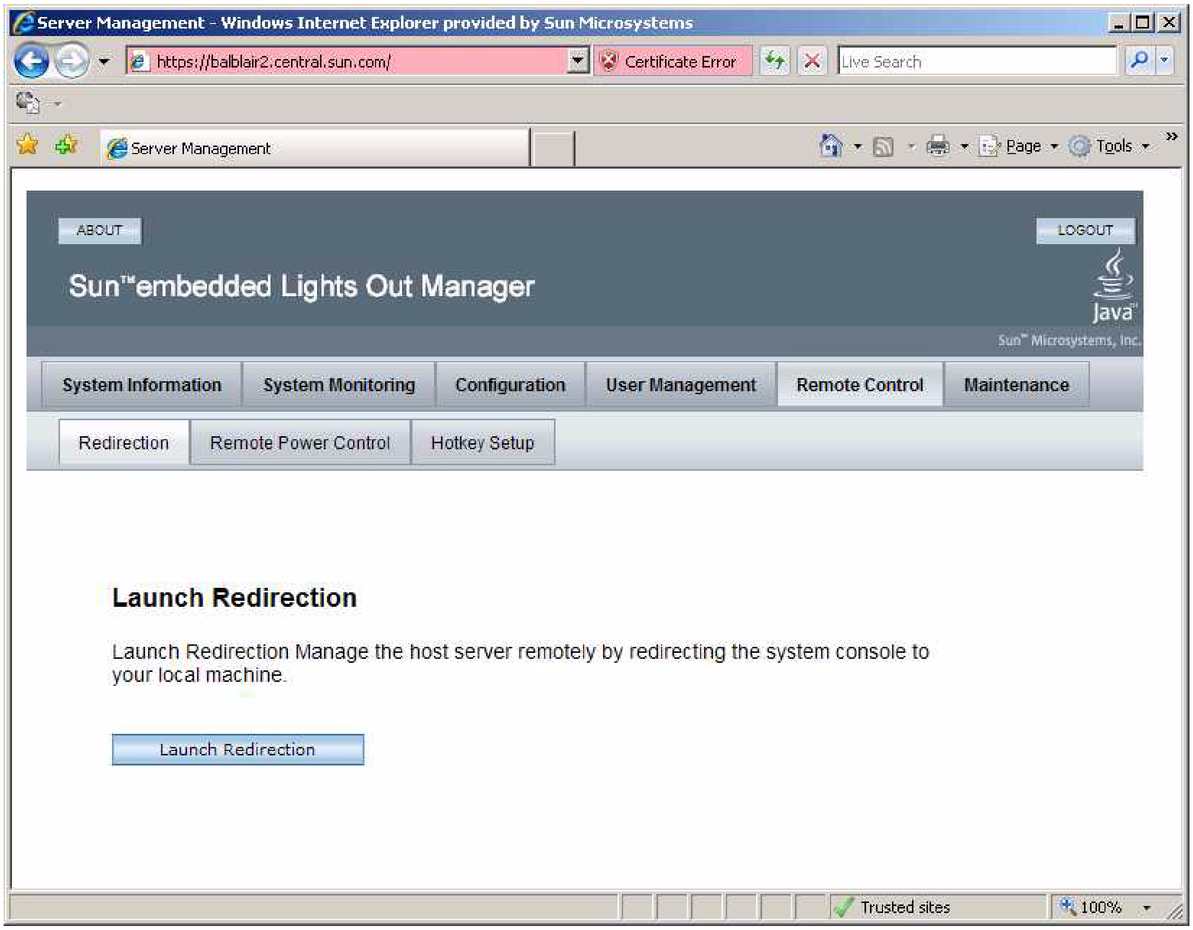
   KMAs are configured to boot up automatically when initially powered on and should boot up to the QuickStart prompt within a few minutes of being powered on.

5. Check the power status by clicking on the **System Monitoring** tab.
   The power status is shown in the table.
6. If the Power Status shows “power off,”
   Click on the **Remote Control** tab to the far right of the upper row of tabs.
7. Click on the **Remote Power Control** tab in the second row of tabs.
8. In the Select Action drop-down, choose **Power On** and click the **Save** button.
   The KMA will begin powering up. This will take a few minutes; however, you can continue with the KMA configuration.

FIGURE 2-2 Power Control



9. Click on the **Remote Control** tab in the first row of tabs.
10. Click on the **Redirection** tab in the second row of tabs.
11. Click on the **Launch Redirection** button.

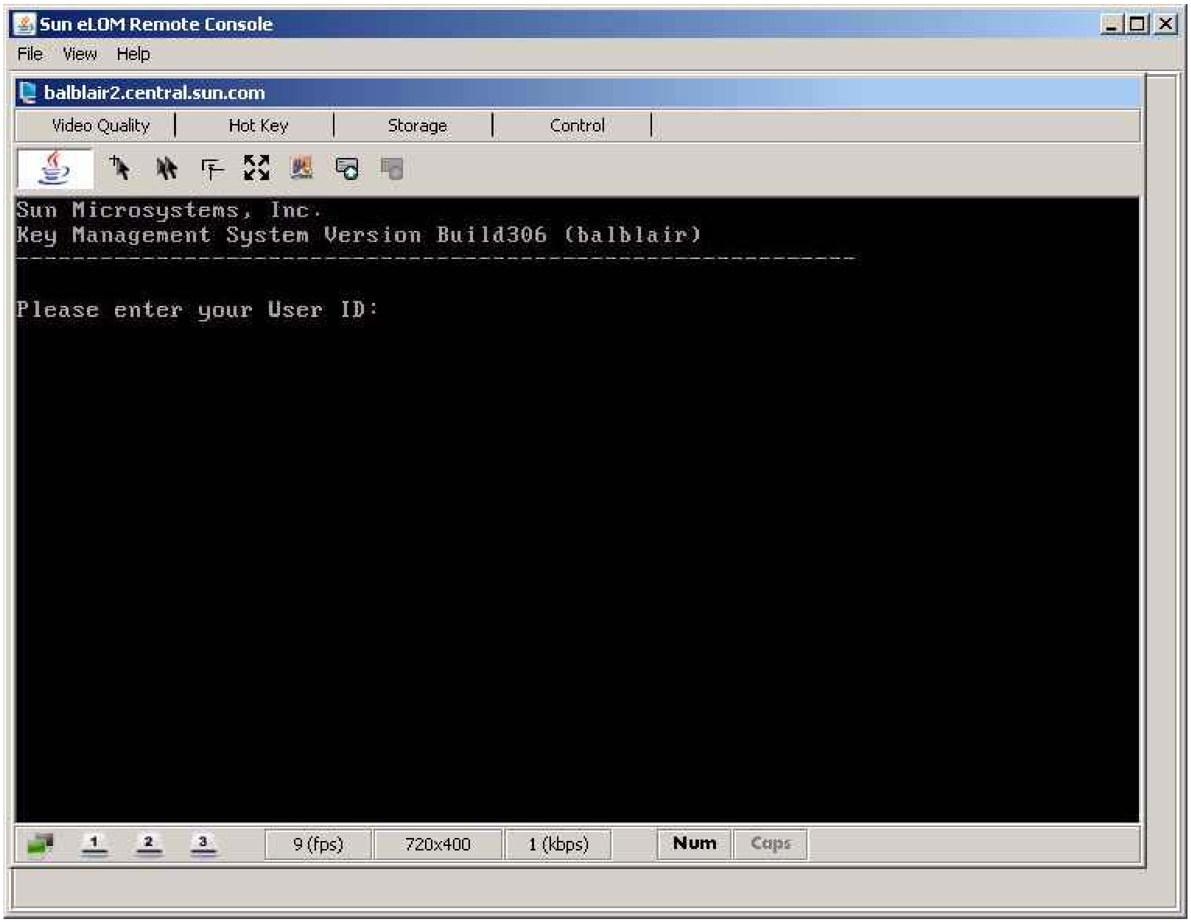


Launch Redirection

Launch Redirection Manage the host server remotely by redirecting the system console to your local machine.

This launches the remote console screen in a new window.

12. A java applet will be downloaded before starting the remote console window. Save the javaRKVM.jnlp file when requested, then open it to start the remote console. Click past any warnings that may be displayed.



```
Sun Microsystems, Inc.
Key Management System Version Build306 (balblair)
------------------------------------------------------------

Please enter your User ID:
```

Running the QuickStart Program

When a KMA in the factory default state is powered on, a special mode of the KMA Configuration Menu called QuickStart is automatically executed. QuickStart collects the minimal configuration information required for initializing the KMA. Once the QuickStart program has been successfully completed, it cannot be re-executed. The only way to access the QuickStart program again is to reset the KMA to its factory default state.

Note – In the following screen examples, entries in **bold** represent areas where you respond.

Starting QuickStart

To run the QuickStart Program:

Power on the KMA. When you power up the KMA for the first time, QuickStart is executed, and the Welcome to QuickStart! screen is displayed.

```
Welcome to QuickStart!

The QuickStart program will guide you through
the necessary steps for configuring the KMA.

You may enter Ctrl-c at any time to abort; however,
it is necessary to successfully complete all steps in this
initialization program to enable the KMA.

Press Enter to continue:

Set Keyboard Layout
__________________________________________________________

Press Ctrl-c to abort.

You may change the keyboard layout here.

Available keyboard layouts:

( 1) Albanian          ( 2) Belarusian    ( 3) Belgian
( 4) Bulgarian         ( 5) Croatian      ( 6) Danish
( 7) Dutch             ( 8) Finnish       ( 9) French
(10) German            (11) Icelandic     (12) Italian
(13) Japanese-type6    (14) Japanese      (15) Korean
(16) Malta_UK          (17) Malta_US      (18) Norwegian
(19) Portuguese       (20) Russian      (21) Serbia-And-Montenegro
(22) Slovenian         (23) Slovakian     (24) Spanish
(25) Swedish           (26) Swiss-French  (27) Swiss-German
(28) Taiwanese         (29) TurkishQ      (30) TurkishF
(31) UK-English        (32) US-English

The current layout is US-English.

Please enter the number for the keyboard layout : 32

The keyboard layout has been applied successfully.

Press Enter to continue:
```

Note – If the user presses Ctrl-c, the QuickStart program resets and the Welcome to QuickStart! screen is redisplayed.

Setting the IP Address

1. At the `Press Enter to continue:` prompt, press <Enter>. The following information is displayed.

```
A static IP Address configuration must be set in order for the KMA
to communicate with other KMAs, Agents, or Users in your system.

Please enter the Management Network Hostname: KMSmgr

Do you want to use DHCP to configure the Management Network
interface? [y/n]: n

Please enter the Management Network IP Address: 129.80.123.32

Please enter the Management Network Subnet Mask: 255.255.254.0

Please enter the Service Network Hostname: SDP

Do you want to use DHCP to configure the Service Network
interface? [y/n]: n

Please enter the Service Network IP Address: 172.18.18.1

Please enter the Service Network Subnet Mask: 255.255.254.0

Please enter the Gateway IP Address (optional but necessary
if this KMA is to communicate with an entity on a
different IP Subnet): 129.80.123.254

Please enter the Primary DNS Server IP Address (optional):
129.80.0.4

Please enter the DNS Domain: my.customer.com

Applying network settings...  Done.

The Network Configuration has been updated.

Press Enter to continue:

Press Ctrl-c to abort.
```

2. At the `Please enter the Management Network Hostname:` prompt, enter the Management Network Hostname, and press <Enter>.

3. At the `Do you want to use DHCP to configure the Management Network interface? [y/n]:` prompt, type either **n** or **y** and press <Enter>. If you type **n**, go to Step 4. If you type **y**, go to Step 6.

4. At the `Please enter the Management Network IP Address:` prompt, type the Management Network IP address and press <Enter>.

5. At the `Please enter the Management Network Subnet Mask:` prompt, type the subnet mask address, (for example **255.255.254.0**) and press <Enter>.

6. At the `Please enter the Service Network Hostname:` prompt, enter the Service Network Hostname and press <Enter>.

7. At the `Do you want to use DHCP to configure the Service Network interface? [y/n]:` prompt, type either **n** or **y** and press <Enter>. If you type **n**, go to Step 8. If you type **y**, go to Step 10.

8. At the `Please enter the Service Network IP Address:` prompt, enter the Service Network IP address and press <Enter>.

9. At the `Please enter the Service Network Subnet Mask:` prompt, type the subnet mask address, (for example, **255.255.255.0**) and press <Enter>.

10. At the `Please enter the Gateway IP Address (optional but necessary if this KMA is to communicate with an entity on a different IP Subnet:` prompt, type the Gateway IP address and press <Enter>. You can leave this entry blank if the KMA is not going to communicate with any entity outside its subnet.

11. At the `Please enter the Primary DNS Server IP Address (optional):` prompt, type the Primary DNS Server's IP address and press <Enter>. You can leave this entry blank.

12. At the `Please enter the DNS Domain:` prompt, enter the DNS Domain and press <Enter>.

13. The following information is displayed, indicating that the network settings have been applied. This may take a minute or two.

Initializing the KMA

1. Press <Enter> to continue. The following information is displayed.

```
The KMA Name is a unique identifier for your KMA. This name should
not be the same as the KMA Name for any other KMA in your cluster.
It also should not be the same as any User Names or Agent IDs in
your system.

Please enter the KMA Name: KMA-1

Press Enter to continue:

Set Root Passphrase (Technical Support)
____________________________________________________________
The 'root' account can only be used by Support personnel to
administer support under extreme circumstances. You must set the
'root' account Passphrase to a secure value.

This Passphrase can be reset at a later date by a Security
Officer User.

Passphrases must be at least 8 characters and at most 64
characters in length.

Passphrases must not contain the User's User Name.
Passphrases must contain characters from 3 of 4 character
classes (uppercase, lowercase, numeric, other).

Please enter a new Passphrase for the operating system
'root' account: ********

Please re-enter the 'root' Passphrase: ********

Press Enter to continue:
Press Ctrl-c to abort.
```

2. At the prompt, type a unique identifier for the KMA.

Note – A KMA Name cannot be altered once it is set using the QuickStart program. It can only be changed by resetting the KMA to the factory default and running QuickStart again.

3. At the prompt, type a value for the root passphrase, ensuring that it satisfies the rules above.

4. At the `Please re-enter the 'root' Passphrase:` prompt, type the same passphrase you entered in Step 3 and press <Enter>.

Configuring the Cluster

1. At the prompt, press <Enter>. The following information is displayed, indicating that you can use this KMA to create a new Cluster, join an existing Cluster, or restore a Cluster from a backup of this KMA.

```
You can now use this KMA to create a new Cluster, or you can have
this KMA join an existing Cluster.  You can also restore a backup
to this KMA or change the KMA Version.

Please choose one of the following:
(1)  Create New Cluster
(2)  Join Existing Cluster
(3)  Restore Cluster from Backup

Please enter your choice: 1

Create New Cluster
```

2. At the prompt, type **1**, **2**, or **3** and press <Enter>.

If you type 1, go to "Entering Key Split Credentials" on page 31.

If you type 2, go to "Joining an Existing Cluster" on page 36.

If you type 3, go to "Restoring a Cluster From a Backup" on page 39.

Entering Key Split Credentials

Key Split Credentials user IDs and passphrases should be entered by the individual who owns that user ID and passphrase. Using one person to collect and enter this information defeats the purpose of having the Key Split Credentials.

If it is impractical for all members of the Key Split Credentials to enter this information at this time, enter a simple set of credentials now, and then enter the full credentials later in the KMS Manager.

However, doing this creates a security risk. If a Core Security backup is created with simple Key Split Credentials, it can then be used to restore a backup.

1. At the `Please enter your choice:` prompt, type 1. The following information is displayed.

```
The Key Split credentials are used to wrap splits of the Core
Security Key Material which protects Data Unit Keys.

When Autonomous Unlocking is not enabled, a quorum of Key Splits
must be entered in order to unlock the KMA and allow access to
Data Unit Keys.

A Key Split credential, consisting of a unique User Name and
Passphrase, is required for each Key Split.

The Key Split Size is the total number of splits that will
be generated.

This number must be greater than 0 and can be at most 10.


Please enter the Key Split Size: 1


The Key Split Threshold is the number of Key Splits required to
obtain a quorum.

Please enter the Key Split Threshold: 2

Please enter the Key Split User Name #1: user1

Passphrases must be at least 8 characters and at most 64
characters in length.

Passphrases must not contain the User's User Name.

Passphrases must contain characters from 3 of 4 character classes
(uppercase, lowercase, numeric, other).

Please enter Key Split Passphrase #1: ********

Please re-enter Key Split Passphrase #1: ********

Press Enter to continue:

Press Ctrl-c to abort.
```

Notes:

- The Key Split Size and Key Split Threshold can be changed at a later time using the KMS Manager.
- User IDs and passphrases should be entered only by an authorized user to keep them secure. These items also can be changed after running the QuickStart program.

2. At the `Please enter the Key Split Size:` prompt, type the number of key splits that will be generated and press <Enter>.
3. At the `Please enter the Key Split Threshold:` prompt, type the number of required keys splits to obtain a quorum and press <Enter>.
4. At the `Please enter the Key Split User Name #1:` prompt, type the username for the first Key Split user and press <Enter>.
5. At the `Please enter Key Split Passphrase #1:` prompt, type the passphrase for the first Key Split user and press <Enter>.
6. At the `Please re-enter Key Split Passphrase #1:` prompt, type the same passphrase that you previously entered and press <Enter>.
7. Repeat Step 4 through Step 6 until all user names and passphrases have been entered for the selected Key Split size.

Note – The Key Split user names and passphrases are independent of other user accounts that are established for KMA administration.

Entering Initial Security Officer User Credentials

1. At the `Press Enter to continue:` prompt, press <Enter>. The following information is displayed.

```
The Initial Security Officer User is the first User that can
connect to the KMA via the KMS Manager.  This User can subsequently
create additional Users and administer the system.

Please enter a Security Officer User Name: SecOfficer

A Passphrase is used to authenticate to the KMA when a connection
is made via the KMS Manager.
Passphrases must be at least 8 characters and at most 64 characters
in length.
Passphrases must not contain the User's User Name.

Passphrases must contain characters from 3 of 4 character classes
(uppercase, lowercase, numeric, other).

Please enter the Security Officer Passphrase: ********

Please re-enter the Security Officer Passphrase: ********


Press Enter to continue:
Press Ctrl-c to abort.
```

Note – This initial Security Officer user account will be used to logon to the KMA using the KMS Manager.

2. At the prompt, type the Security Officer's user name and press <Enter>. The following information is displayed.
3. At the prompt, type the Security Officer's passphrase and press <Enter>.
4. At the Please re-enter the Security Officer Passphrase: prompt, re-type the same passphrase and press <Enter>.

Important – All KMAs have their own passphrases that are independent of passphrases assigned to users and Agents. The first KMA in a Cluster is assigned a random passphrase. If this KMA's certificate expires, and you want to retrieve its entity certificate from another KMA in the Cluster, you would have to use the KMS Manager to set the passphrase to a known value. For procedures, refer to "Setting a KMA Passphrase" on page 96.

Specifying the Autonomous Unlocking Preference

Caution – While it is more convenient and increases the availability of the KMS Cluster, enabling autonomous unlocking creates security risks. When autonomous unlocking is enabled, a powered-off KMA must retain sufficient information to boot up fully and begin decrypting stored keys.

This means a stolen KMA can be powered up, and an attacker can begin extracting keys for the KMA. While it is not easy to extract keys, a knowledgeable attacker will be able to dump all keys off the KMA. No cryptographic attacks will be needed.

If autonomous unlocking is disabled, cryptographic attacks will be required to extract keys from a stolen KMA.

You should carefully consider potential attacks and security concerns before choosing to enable autonomous unlocking.

1. At the `Press Enter to continue:` prompt, press <Enter>. The following information is displayed.

```
When Autonomous Unlocking is DISABLED, it is necessary to
UNLOCK the KMA using a quorum of Key Split Credentials
EACH TIME the KMA starts before normal operation of the
system can continue.  Agents may NOT register Data Units
with or retrieve Data Unit Keys from a locked KMA.

When Autonomous Unlocking is ENABLED, the KMA will
automatically enter the UNLOCKED state each time the
KMA starts, allowing it to immediately service Agent requests.

Do you wish to enable Autonomous Unlocking? [y/n]: y
```

Note – The Autonomous Unlocking feature allows the KMA to enter a fully operational state after a hard or soft reset without requiring the entry of a quorum of passphrases using the KMS Manager. You can change this option from the KMS Manager at a later time.

2. At the prompt, type **y** or **n** and press <Enter>.

Synchronizing KMA Time

KMAs in a Cluster **must** keep their clocks synchronized. Internally, all KMAs use UTC time (coordinated universal time).

You can also use the KMS Manager to adjust date and time settings to local time.

```
KMAs in a Cluster must keep their clocks synchronized. Specify an
NTP server if one is available in your network. Otherwise, specify
the date and time to which the local clock should be set.

Please enter the NTP Server Hostname or IP Address (optional):
ntp.example.com

Press Enter to continue:
Initializing new cluster...

New KMS cluster has been created.

Press Enter to continue:
Key Management System Version Build xyz
___________________________________________________________
KMA initialization complete!

You may now connect to the KMA via the KMS Manager in order to
continue with KMS configuration.

Press Enter to exit:

Key Management System Version Build xyz (KMA-1)
___________________________________________________________

Please enter your User Name:
```

1. If an NTP server is available in your network environment, at the `Please enter the NTP Server Hostname or IP Address (optional):` prompt, enter the NTP server hostname or IP address.

2. If an NTP server is not available, press <Enter>. Then, at the `Please enter the date and time for this KMA` prompt, enter the date and time in one of the specified formats, or press <Enter> to use the displayed date and time.

3. At the prompt, press <Enter>. KMA initialization is complete.

4. Press <Enter> to exit. The QuickStart program terminates and a login prompt is displayed (refer to "Logging into the KMA" on page 268). The KMA now has the minimum system configuration that is required to communicate with the KMS Manager.

5. Your next step is to use the KMS Manager to connect to the Cluster. For procedures, refer to "Connecting to the Cluster" on page 77.

Joining an Existing Cluster

Important – Before performing this task, the Security Officer must first log into the KMS Cluster using the KMS Manager and create a KMA. See "Creating a KMA" on page 91.

The KMA Name specified in the KMA initialization process (see "Initializing the KMA" on page 29) must match the KMA name you enter when you create the KMA.

To join a new KMA to an existing Cluster:

1. When you complete the KMA initialization process (see "Initializing the KMA" on page 29), at the prompt, press <Enter>.

   The following information is displayed, indicating that you can use this KMA to create a new Cluster, join an existing Cluster, or restore a Cluster from a backup of this KMA.

```
You can now use this KMA to create a new Cluster, or you can have
this KMA join an existing Cluster.  You can also restore a backup
to this KMA or change the KMA Version.

Please choose one of the following:
(1)   Create New Cluster
(2)   Join Existing Cluster
(3)   Restore Cluster from Backup

Please enter your choice: 2

Join Existing Cluster
```

2. At the `Please enter your choice:` prompt, type **2**. The following information is displayed.

```
Join Existing Cluster
------------------------------------------------------------
Press Ctrl-c to abort.

In order to join a Cluster, the KMA must contact
another KMA which is already in the Cluster.

Please enter the Management Network IP Address or Host Name of an
existing KMA in the cluster: 129.80.60.172

Please enter this KMA's Passphrase:********

Press Enter to continue:

This command requires authorization by a quorum of Key
Split Users. Enter sufficient Key Split credentials to form
a quorum. Enter a blank name to finish.

Press Ctrl-c to abort.
Please enter Key Split User Name #1: user1

Please enter Key Split Passphrase #1: ********

Press Enter to continue:

Joining cluster...

KMA has joined the KMS cluster.

Press Enter to continue:

Key Management System Version xxx
------------------------------------------------------------

KMA initialization complete!

You may now connect to the KMA via the KMS Manager
in order to continue with KMS configuration.

Press Enter to exit:
```

Note – Before this new KMA can communicate with an existing KMA in the Cluster, you must use the KMS Manager to create an entry for this KMA in the existing KMA's database. For procedures, refer to "Creating a KMA" on page 91.

3. At the prompt, type the network address of one KMA in the existing Cluster and press <Enter>.

4. At the prompt, type the passphrase for the KMA and press <Enter>.

5. Enter the first Key Split user name for the first KMA.
6. Type the passphrase for the Key Split user, and press <Enter>.

Important – Enter Key Split user names and passphrases carefully. Any errors cause this process to fail with a non-specific error message. To limit information exposed to an attacker, no feedback is given as to which Key Split user name or passphrase is incorrect.

---

7. Repeat Step 5 and Step 6 until you have entered a sufficient number of Key Split user names and passphrases to form a quorum.
8. At the next `Please enter Key Split User Name` prompt, press <Enter>. Enter a blank name to finish.

   The initialization is complete.
9. Press <Enter> to exit. The QuickStart program terminates and a login prompt is displayed (refer to "Logging into the KMA" on page 268). The KMA now has the minimum system configuration that is required to communicate with the KMS Manager.
10. Your next step is to use KMS Manager to connect to the Cluster. For procedures, refer to "Connecting to the Cluster" on page 771.

Restoring a Cluster From a Backup

This option allows you to create a Security Officer account that can be used to restore the Backup image to the KMA using the KMS Manager. You can use a Backup to restore a KMA's configuration in the event a KMA experiences a failure (for example, hard disk damage). This, however, is not typically required since a KMA that is restored to the factory default state can readily join an existing cluster and build up its database by receiving replication updates from Cluster peers. Restoring a KMA from a Backup is still useful in the event that all KMAs in a Cluster have failed.

Note – You must have a Backup. For procedures on creating Backups using the KMS Manager, refer to "Creating a Backup" on page 261.

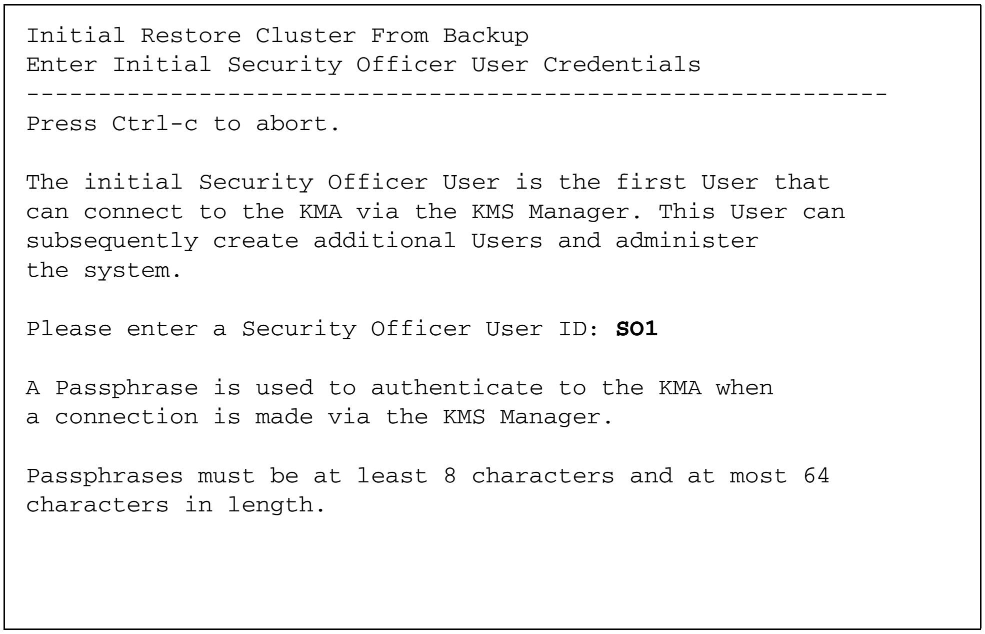
To restore the backup image:

1. When you complete the KMA initialization process (see "Initializing the KMA" on page 29), at the prompt, press <Enter>.

   The following information is displayed, indicating that you can use this KMA to create a new Cluster, join an existing Cluster, or restore a Cluster from a backup of this KMA.

```
You can now use this KMA to create a new Cluster, or you can have
this KMA join an existing Cluster.  You can also restore a backup
to this KMA or change the KMA Version.

Please choose one of the following:
(1)  Create New Cluster
(2)  Join Existing Cluster
(3)  Restore Cluster from Backup

Please enter your choice: 3

Restore Cluster from Backup
```

2. At the `Please enter your choice:` prompt, type **3**. The following information is displayed.



```
Initial Restore Cluster From Backup
Enter Initial Security Officer User Credentials
------------------------------------------------------------
Press Ctrl-c to abort.

The initial Security Officer User is the first User that
can connect to the KMA via the KMS Manager. This User can
subsequently create additional Users and administer
the system.

Please enter a Security Officer User ID: SO1

A Passphrase is used to authenticate to the KMA when
a connection is made via the KMS Manager.

Passphrases must be at least 8 characters and at most 64
characters in length.
```

3. At the prompt, type the Security Officer's user name and press <Enter>.

4. At the prompt, type the Security Officer's passphrase and press <Enter>.

5. At the `Please re-enter the Security Officer's Passphrase:` prompt, retype the passphrase you entered in Step 4 and press <Enter>.

```
Set Time Information
------------------------------------------------------------

Press Ctrl-c to abort.

KMAs in a Cluster must keep their clocks synchronized.
Specify an NTP server if one is available in your network.
Otherwise, specify the date and time to which the local clock
should be set.

Please enter the NTP Server Hostname or IP Address (optional):

The date and time for this KMA must be specified in ISO 8601 format
including a time zone.  Here are some valid ISO 8601 format
patterns:

    YYYY-MM-DDThh:mm:ssZ
    YYYY-MM-DD hh:mm:ssZ
    YYYY-MM-DDThh:mm:ss-0600
    YYYY-MM-DD hh:mm:ss-0600
    YYYY-MM-DDThh:mm:ss+02:00
    YYYY-MM-DD hh:mm:ss+02:00

Please enter the date and time for this KMA [2007-09-17
22:32:53.698Z]: 2007-09-17 22:33:00-0600

Press Enter to continue:


The KMA is now ready to be restored.

Press Enter to continue:
```

6. If an NTP server is available in your network environment, at the `Please enter the NTP Server Hostname or IP Address (optional):` prompt, enter the NTP server hostname or IP address.

7. If an NTP server is not available, press <Enter>. Then, at the `Please enter the date and time for this KMA` prompt, enter the date and time in one of the specified formats, or press <Enter> to use the displayed date and time.

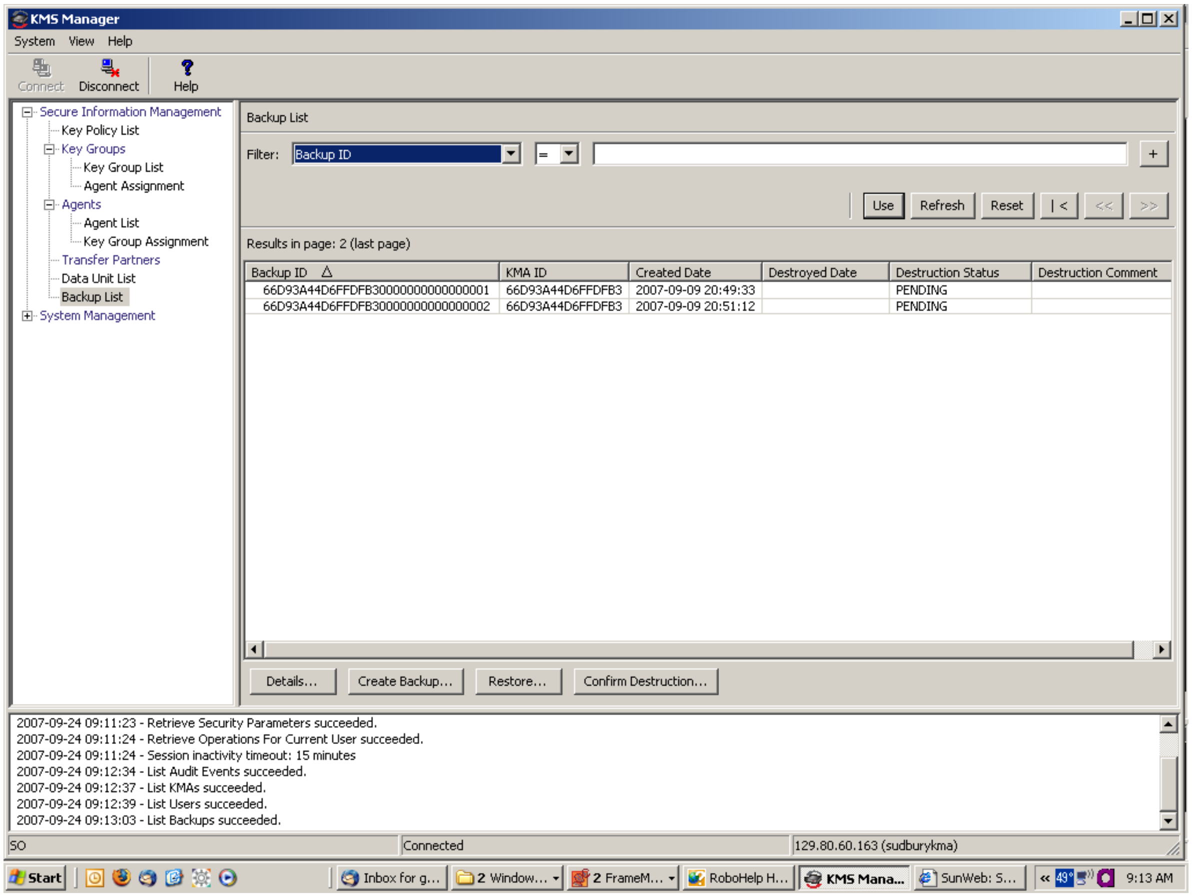
   Ensure the date and time are accurate. Key lifecycles are based on time intervals, and the original creation times for the keys are contained in the backup. An accurate time setting on the replacement KMA is essential to preserve the expected key lifecycles.

8. At the prompt, press <Enter>. The following information is displayed, indicating that initialization is complete.

```
KMA Management System Version xxx
------------------------------------------------------------

KMA initialization complete!

You may now connect to the KMA via the KMS Manager
in order to continue with KMS configuration.

Press Enter to exit:
```

9. Press <Enter> to exit. The QuickStart program terminates and a login prompt is displayed.

10. Login as the Security Officer on the KMS Manager and select **Backup List**. From the Backup List screen, choose the **Restore** button to upload and restore the backup to the KMA.



Results in page: 2 (last page)

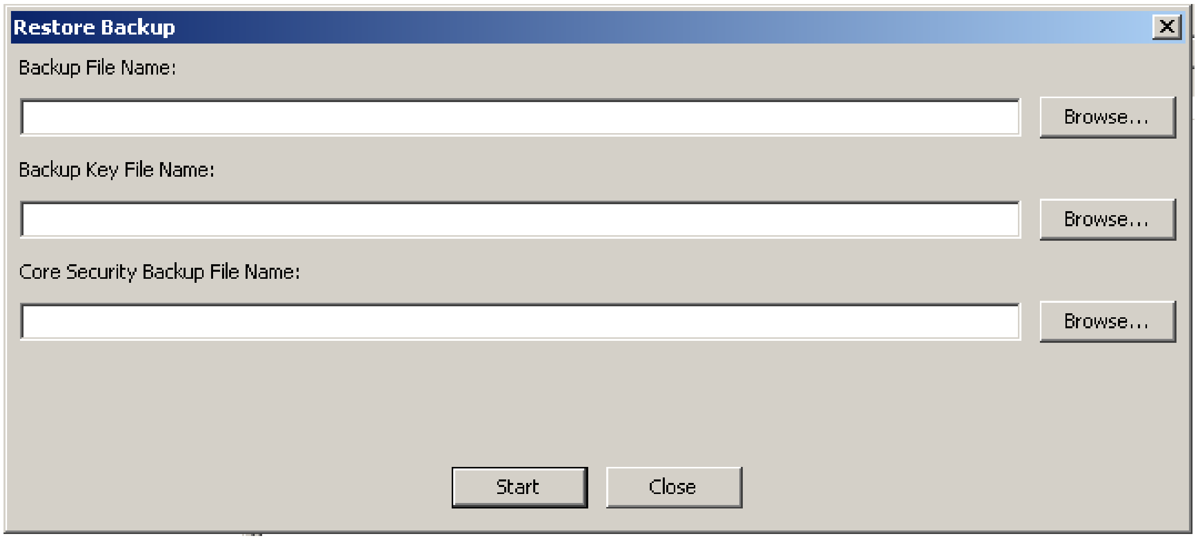
Backup ID △	KMA ID	Created Date	Destroyed Date	Destruction Status	Destruction Comment
66D93A44D6FFDFB30000000000000001	66D93A44D6FFDFB3	2007-09-09 20:49:33		PENDING	
66D93A44D6FFDFB30000000000000002	66D93A44D6FFDFB3	2007-09-09 20:51:12		PENDING	

```
2007-09-24 09:11:23 - Retrieve Security Parameters succeeded.
2007-09-24 09:11:24 - Retrieve Operations For Current User succeeded.
2007-09-24 09:11:24 - Session inactivity timeout: 15 minutes
2007-09-24 09:12:34 - List Audit Events succeeded.
2007-09-24 09:12:37 - List KMAs succeeded.
2007-09-24 09:12:39 - List Users succeeded.
2007-09-24 09:13:03 - List Backups succeeded.
```

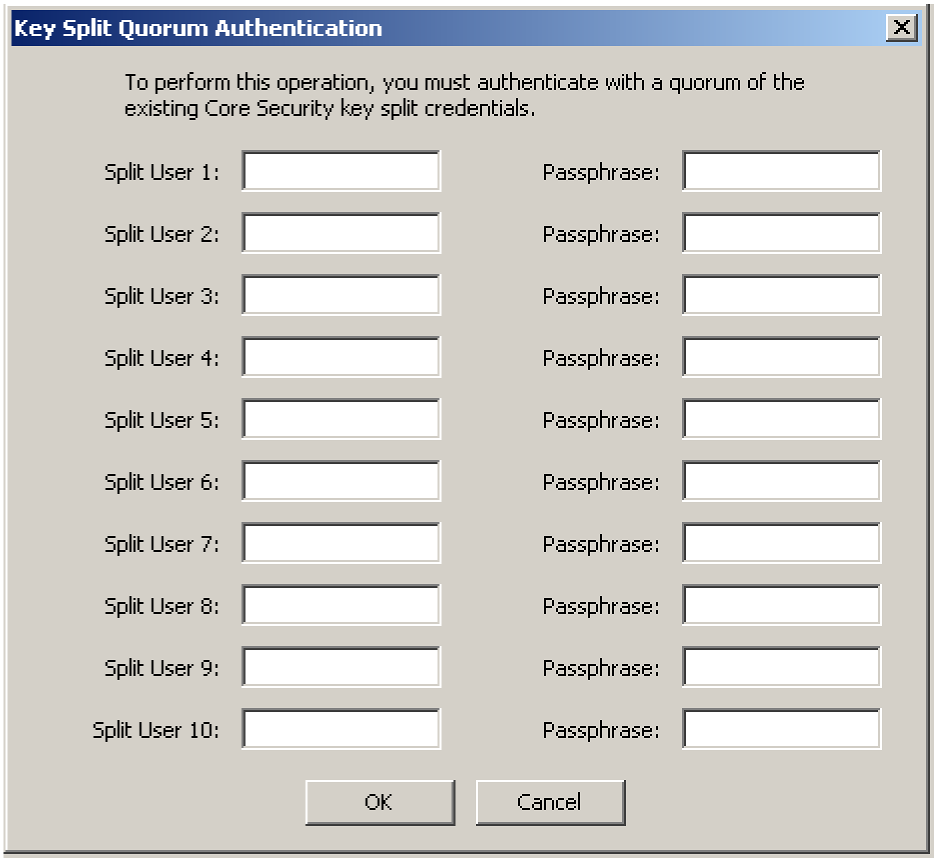
SO | Connected | 129.80.60.163 (sudburykma)

11. To complete the restore operation, the KMS Manager prompts for a Backup File that corresponds to the Backup Key file, a Backup Key file, and a Core Security backup file.

    The Backup Key file and Backup file must match, but any Core Security Backup file can be used.



12. The KMS Manager then prompts for a quorum of Key Split users. These must be Key Split Credential users that were in effect when the Core Security Backup was performed.



Key Split Quorum Authentication

To perform this operation, you must authenticate with a quorum of the existing Core Security key split credentials.

Once the restore is complete, the Key Split Credentials that were in effect when the backup (not the Core Security Backup) was completed, will be restored.

Important – Enter Key Split user names and passphrases carefully. Any errors cause the "Joining an Existing Cluster" process to fail with a non-specific error message. To limit information exposed to an attacker, no feedback is given as to which Key Split user name or passphrase is incorrect.

---

13. When the restore process is completed, a new Cluster is created.

CHAPTER 3

Using the KMS Manager

This chapter describes the KMS Manager and gives procedures for:

- Installing the KMS Manager software
- Invoking the KMS Manager
- Uninstalling the KMS Manager software.

The chapter also gives a brief description of the menus and panes.

What is the KMS Manager?

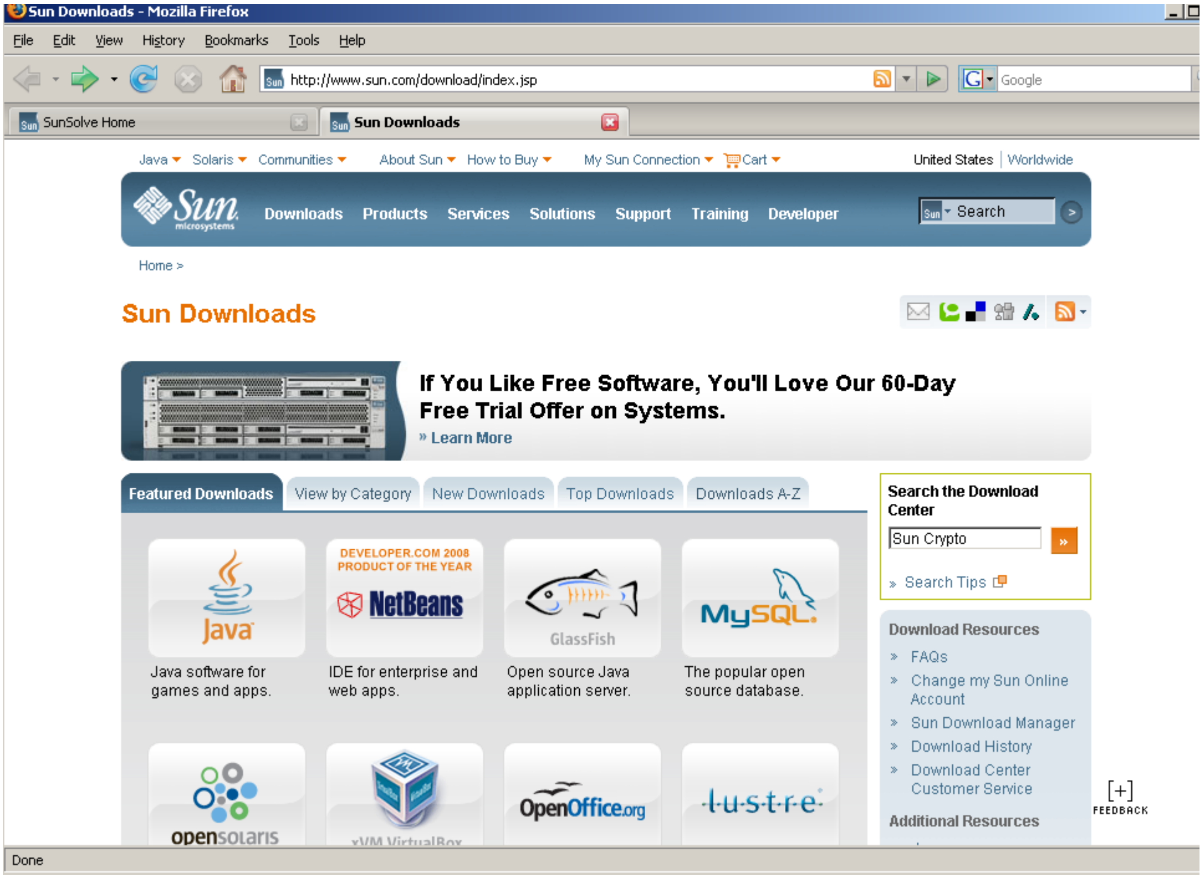
The KMS Manager is an application that serves as a client to the KMA. It can be used to configure, control, and monitor the KMA. Depending on the assigned user roles, users can perform different operations.

Installing the KMS Manager Software

To download the installer for the KMS Manager software:

1. Go to the Sun Download Center (SDLC) website at the following location:

   `http://www.sun.com/download/index.jsp`



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- Change my Sun Online Account
- Sun Download Manager
- Download History
- Download Center Customer Service

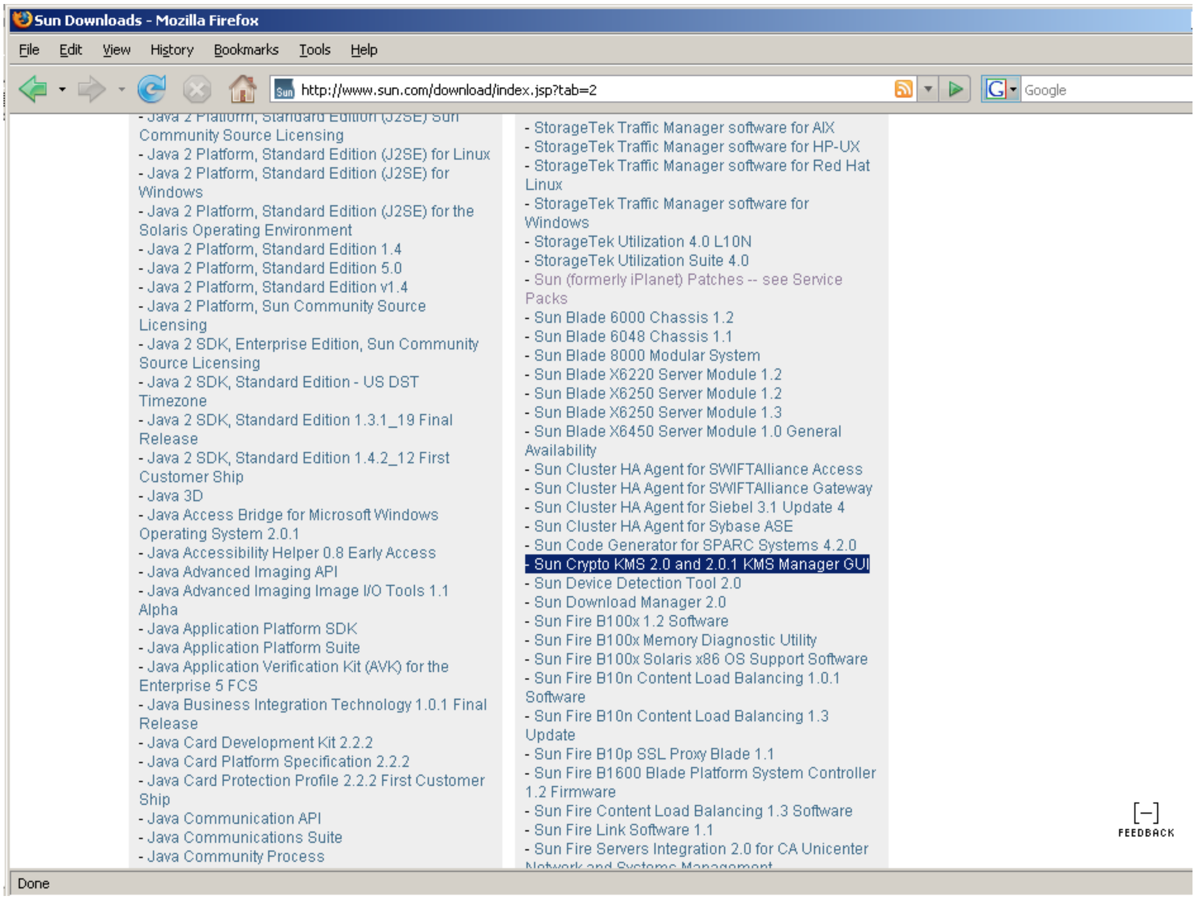
Additional Resources

Note – There are a number of ways to access the KMS installer. The following procedure describes one method.

---

2. Click the **Downloads A-Z** tab.

3. In the right column, scroll down and click **Sun Crypto KMS 2.0 and 2.0.1 KMS Manager GUI**.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http://www.sun.com/download/index.jsp?tab=2
Google
FEEDBACK
Done

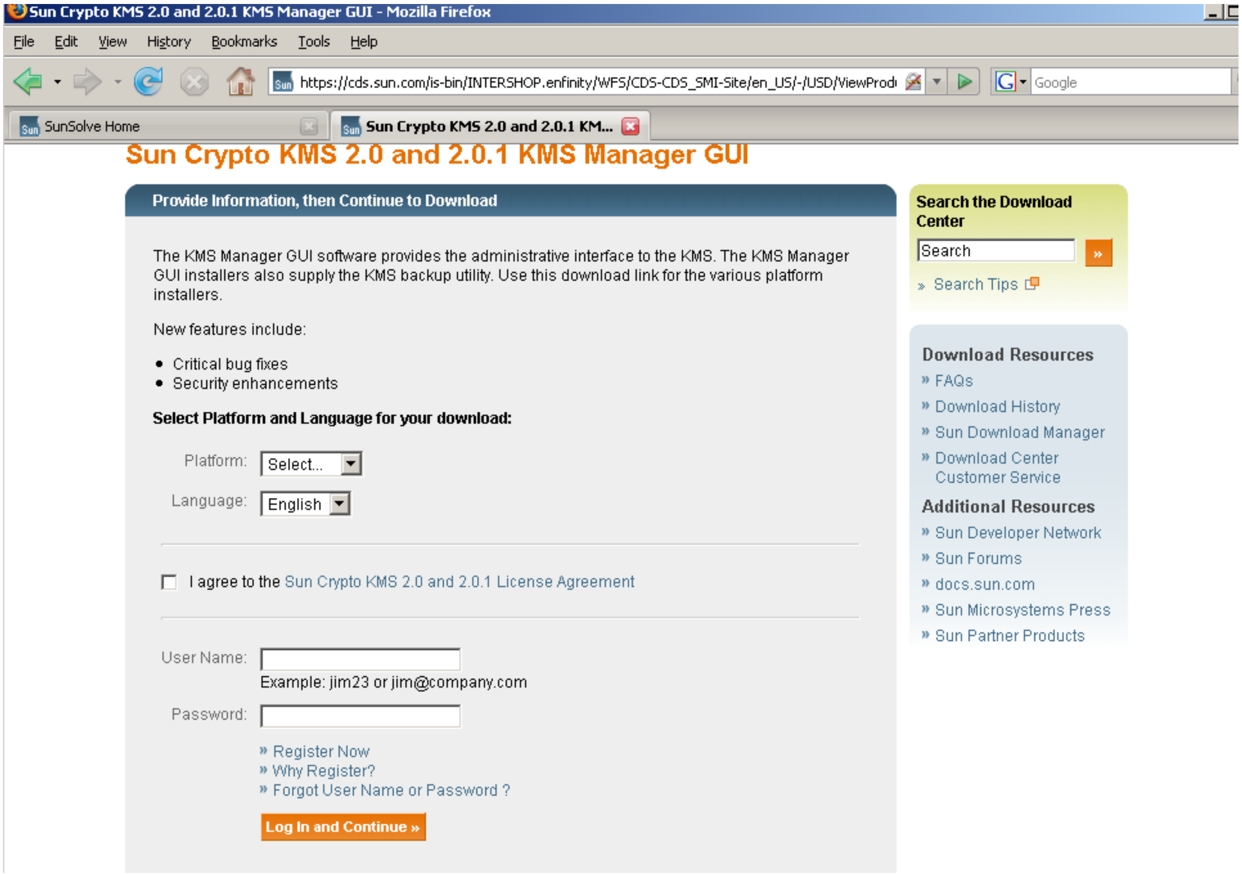
- Java 2 Platform, Standard Edition (J2SE) Sun Community Source Licensing
- Java 2 Platform, Standard Edition (J2SE) for Linux
- Java 2 Platform, Standard Edition (J2SE) for Windows
- Java 2 Platform, Standard Edition (J2SE) for the Solaris Operating Environment
- Java 2 Platform, Standard Edition 1.4
- Java 2 Platform, Standard Edition 5.0
- Java 2 Platform, Standard Edition v1.4
- Java 2 Platform, Sun Community Source Licensing
- Java 2 SDK, Enterprise Edition, Sun Community Source Licensing
- Java 2 SDK, Standard Edition - US DST Timezone
- Java 2 SDK, Standard Edition 1.3.1_19 Final Release
- Java 2 SDK, Standard Edition 1.4.2_12 First Customer Ship
- Java 3D
- Java Access Bridge for Microsoft Windows Operating System 2.0.1
- Java Accessibility Helper 0.8 Early Access
- Java Advanced Imaging API
- Java Advanced Imaging Image I/O Tools 1.1 Alpha
- Java Application Platform SDK
- Java Application Platform Suite
- Java Application Verification Kit (AVK) for the Enterprise 5 FCS
- Java Business Integration Technology 1.0.1 Final Release
- Java Card Development Kit 2.2.2
- Java Card Platform Specification 2.2.2
- Java Card Protection Profile 2.2.2 First Customer Ship
- Java Communication API
- Java Communications Suite
- Java Community Process

- StorageTek Traffic Manager software for AIX
- StorageTek Traffic Manager software for HP-UX
- StorageTek Traffic Manager software for Red Hat Linux
- StorageTek Traffic Manager software for Windows
- StorageTek Utilization 4.0 L10N
- StorageTek Utilization Suite 4.0
- Sun (formerly iPlanet) Patches -- see Service Packs
- Sun Blade 6000 Chassis 1.2
- Sun Blade 6048 Chassis 1.1
- Sun Blade 8000 Modular System
- Sun Blade X6220 Server Module 1.2
- Sun Blade X6250 Server Module 1.2
- Sun Blade X6250 Server Module 1.3
- Sun Blade X8450 Server Module 1.0 General Availability
- Sun Cluster HA Agent for SWIFTAlliance Access
- Sun Cluster HA Agent for SWIFTAlliance Gateway
- Sun Cluster HA Agent for Siebel 3.1 Update 4
- Sun Cluster HA Agent for Sybase ASE
- Sun Code Generator for SPARC Systems 4.2.0
- Sun Crypto KMS 2.0 and 2.0.1 KMS Manager GUI
- Sun Device Detection Tool 2.0
- Sun Download Manager 2.0
- Sun Fire B100x 1.2 Software
- Sun Fire B100x Memory Diagnostic Utility
- Sun Fire B100x Solaris x86 OS Support Software
- Sun Fire B10n Content Load Balancing 1.0.1 Software
- Sun Fire B10n Content Load Balancing 1.3 Update
- Sun Fire B10p SSL Proxy Blade 1.1
- Sun Fire B1600 Blade Platform System Controller 1.2 Firmware
- Sun Fire Content Load Balancing 1.3 Software
- Sun Fire Link Software 1.1
- Sun Fire Servers Integration 2.0 for CA Unicenter Network and Systems Management

4. Provide the following information:

- Platform
- Language
- Your User Name and Password. You can set up the user name and password, if you have not established an account.

Note – You must also click the box next to the **I agree to the Sun Crypto KMS 2.0 and 2.0.1 License Agreement** field to move to the next screen.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SunSolve Home
Sun Crypto KMS 2.0 and 2.0.1 KM...

Sun Crypto KMS 2.0 and 2.0.1 KMS Manager GUI

Provide Information, then Continue to Download

The KMS Manager GUI software provides the administrative interface to the KMS. The KMS Manager GUI installers also supply the KMS backup utility. Use this download link for the various platform installers.

New features include:

- Critical bug fixes
- Security enhancements

Select Platform and Language for your download:

Platform: Select...

Language: English

□ I agree to the Sun Crypto KMS 2.0 and 2.0.1 License Agreement

User Name:

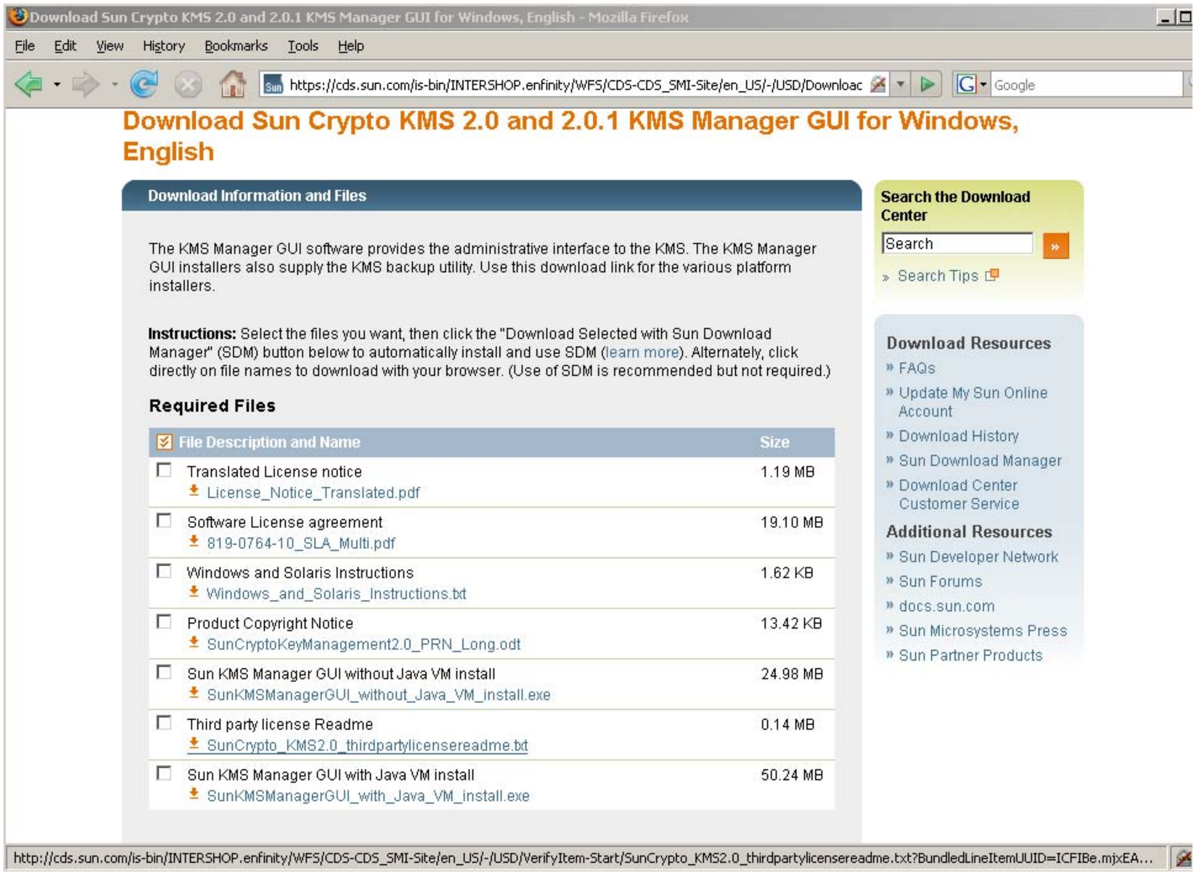
Example: jim23 or jim@company.com

Password:

» Register Now
» Why Register?
» Forgot User Name or Password ?

5. Click **Log In and Continue**.

Either the Solaris or Windows download screen is displayed, depending on the platform you selected. The following screen shows the Windows download.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» Update My Sun Online Account
» Download History
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» Download Center Customer Service
Additional Resources
» Sun Developer Network
» Sun Forums
» docs.sun.com
» Sun Microsystems Press
» Sun Partner Products
http://cds.sun.com/is-bin/INTERSHOP.enfinity/WFS/CDS-CDS_SMI-Site/en_US/-/USD/VerifyItem-Start/SunCrypto_KMS2.0_thirdpartylicensereadme.txt?BundledLineItemUUID=ICFIBe.mjxEA...

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Download Information and Files

The KMS Manager GUI software provides the administrative interface to the KMS. The KMS Manager GUI installers also supply the KMS backup utility. Use this download link for the various platform installers.

Instructions: Select the files you want, then click the "Download Selected with Sun Download Manager" (SDM) button below to automatically install and use SDM (learn more). Alternately, click directly on file names to download with your browser. (Use of SDM is recommended but not required.)

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☑ File Description and Name	Size
□ Translated License notice License_Notice_Translated.pdf	1.19 MB
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□ Windows and Solaris Instructions Windows_and_Solaris_Instructions.txt	1.62 KB
□ Product Copyright Notice SunCryptoKeyManagement2.0_PRN_Long.odt	13.42 KB
□ Sun KMS Manager GUI without Java VM install SunKMSManagerGUI_without_Java_VM_install.exe	24.98 MB
□ Third party license Readme SunCrypto_KMS2.0_thirdpartylicensereadme.txt	0.14 MB
□ Sun KMS Manager GUI with Java VM install SunKMSManagerGUI_with_Java_VM_install.exe	50.24 MB

6. At this point, you can either continue the installer download by:

- starting the Sun Download Manager (SDM) — see page 50
- clicking directly on the file name — see page 54.

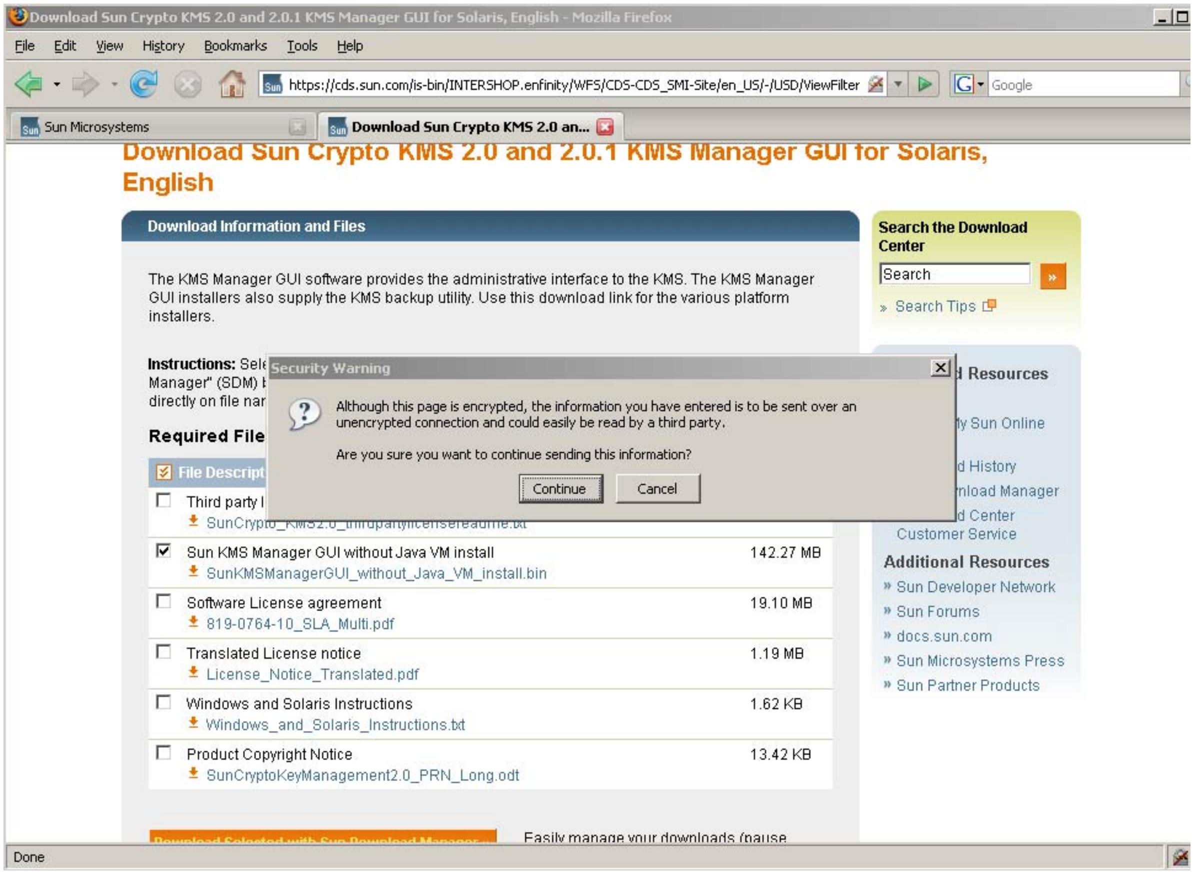
Note – SDM is recommended but not required. It allows you to pause, resume, restart, and verify the download process.

SDM Download:

a. Click the box next to **Sun KMS Manager GUI without Java,** if Java is installed on your Windows system, or **Sun KMS Manager GUI with Java VM install**, if it is not.

b. Click **Download Selected with Sun Download Manager**.

c. Click **Continue** when the security warning is displayed.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Security Warning
Continue
Cancel
Done

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The KMS Manager GUI software provides the administrative interface to the KMS. The KMS Manager GUI installers also supply the KMS backup utility. Use this download link for the various platform installers.

Instructions: Sele Manager" (SDM) t directly on file nar

Required File

Although this page is encrypted, the information you have entered is to be sent over an unencrypted connection and could easily be read by a third party.

Are you sure you want to continue sending this information?

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□ Third party l SunCrypto_KMS2.0_thirdpartylicensereadme.txt	
☑ Sun KMS Manager GUI without Java VM install SunKMSManagerGUI_without_Java_VM_install.bin	142.27 MB
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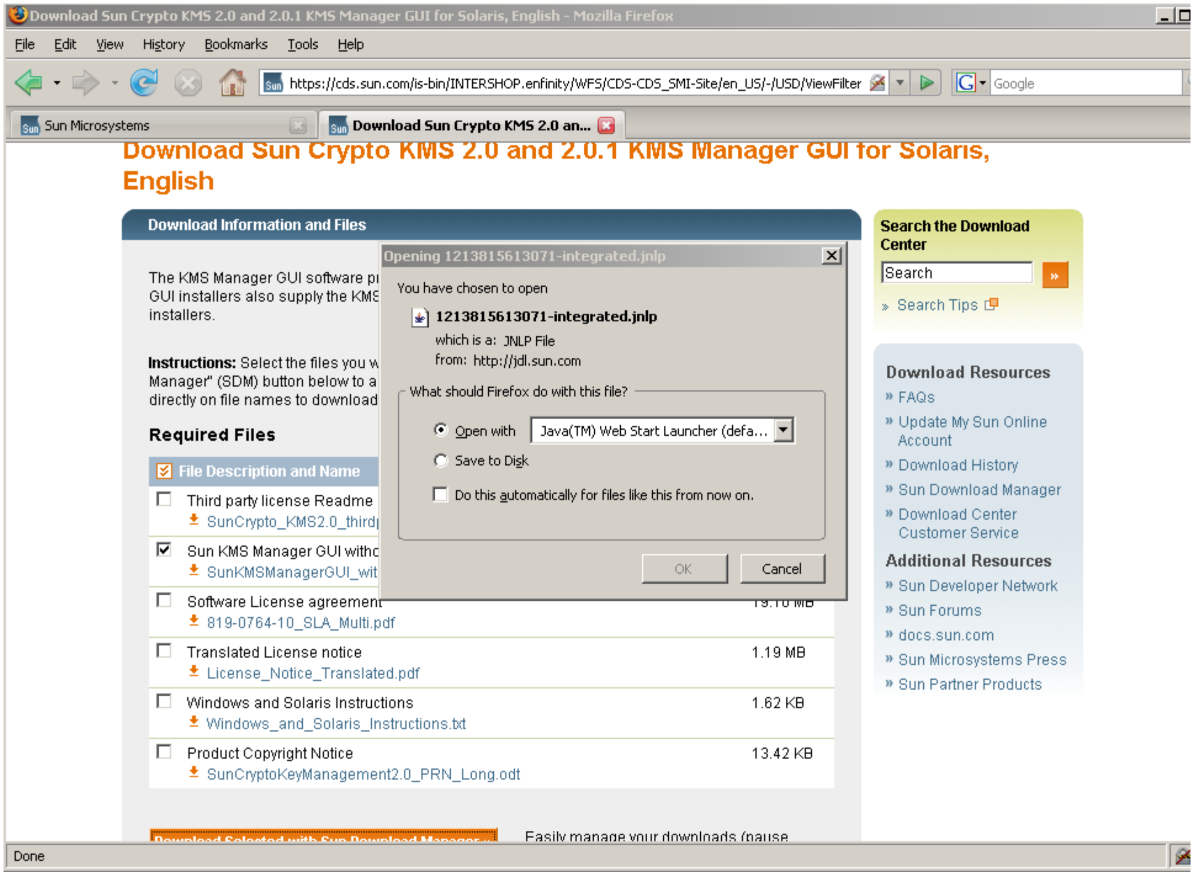
d. Choose either to start downloading the installer now or to save it to disk to launch it later.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Download Information and Files

The KMS Manager GUI software pr
GUI installers also supply the KMS
installers.

Instructions: Select the files you w
Manager" (SDM) button below to a
directly on file names to download

Required Files

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□ Third party license Readme SunCrypto_KMS2.0_thirdp	
☑ Sun KMS Manager GUI withc SunKMSManagerGUI_wit	
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□ Translated License notice License_Notice_Translated.pdf	1.19 MB
□ Windows and Solaris Instructions Windows_and_Solaris_Instructions.txt	1.62 KB
□ Product Copyright Notice SunCryptoKeyManagement2.0_PRN_Long.odt	13.42 KB

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1213815613071-integrated.jnlp

which is a: JNLP File

from: http://jdl.sun.com

What should Firefox do with this file?

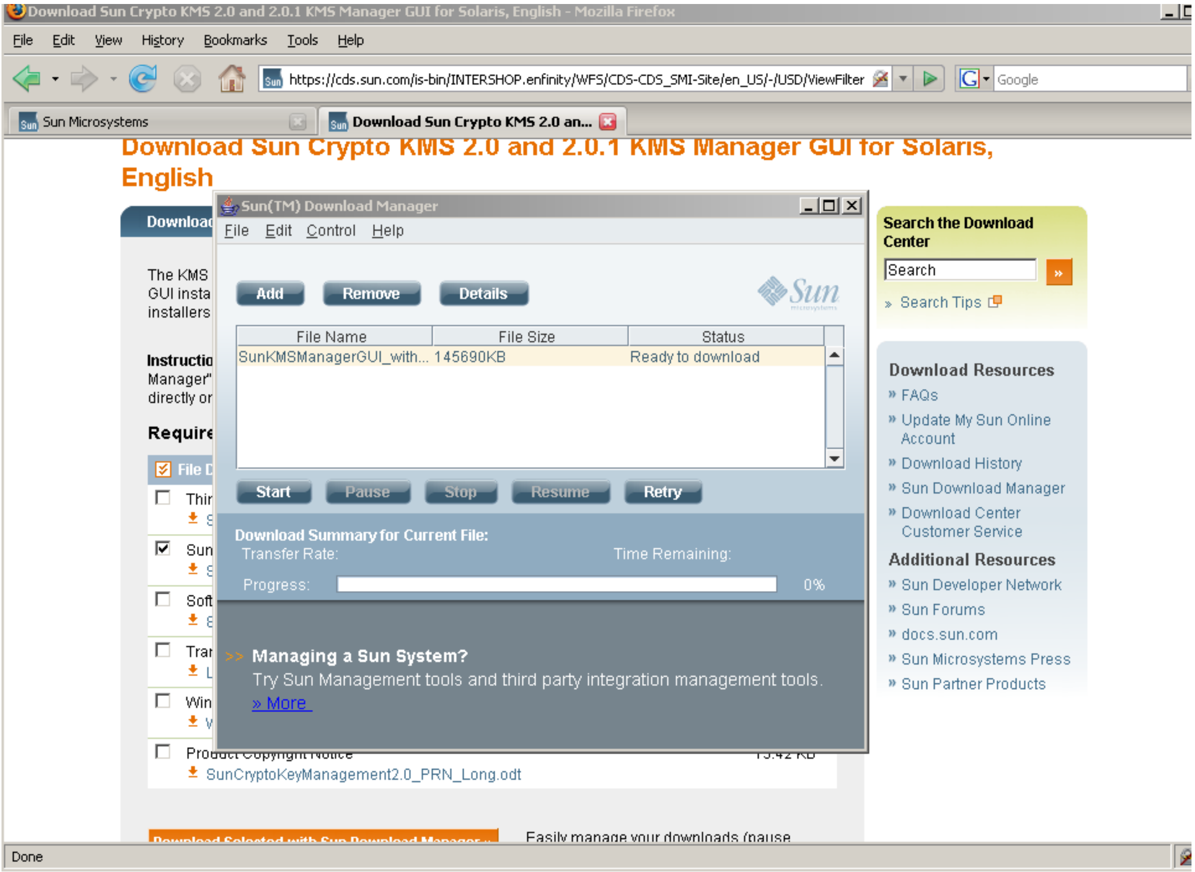
● Open with Java(TM) Web Start Launcher (defa...

○ Save to Disk

□ Do this automatically for files like this from now on.

OK Cancel

e. Select **Start**.



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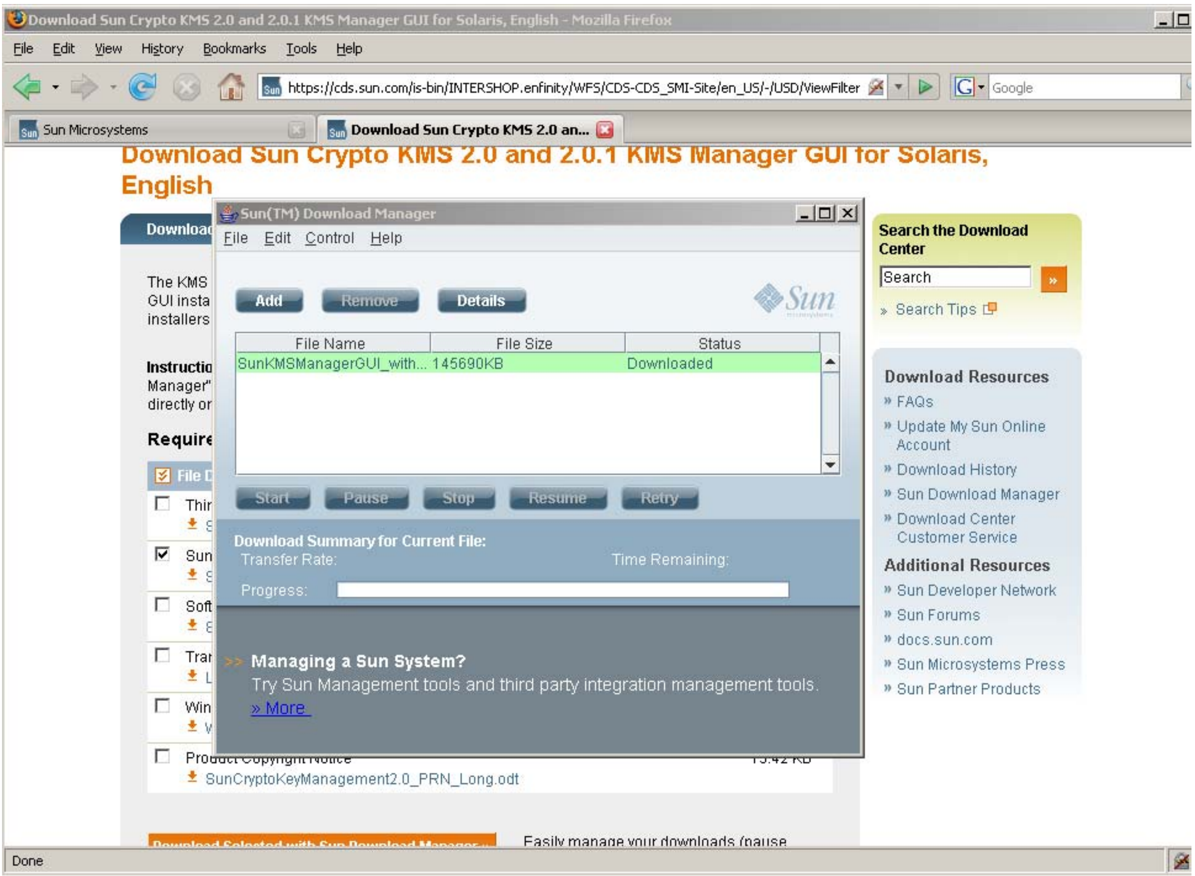

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File Name	File Size	Status
SunKMSManagerGUI_with...	145690KB	Downloaded

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Additional Resources
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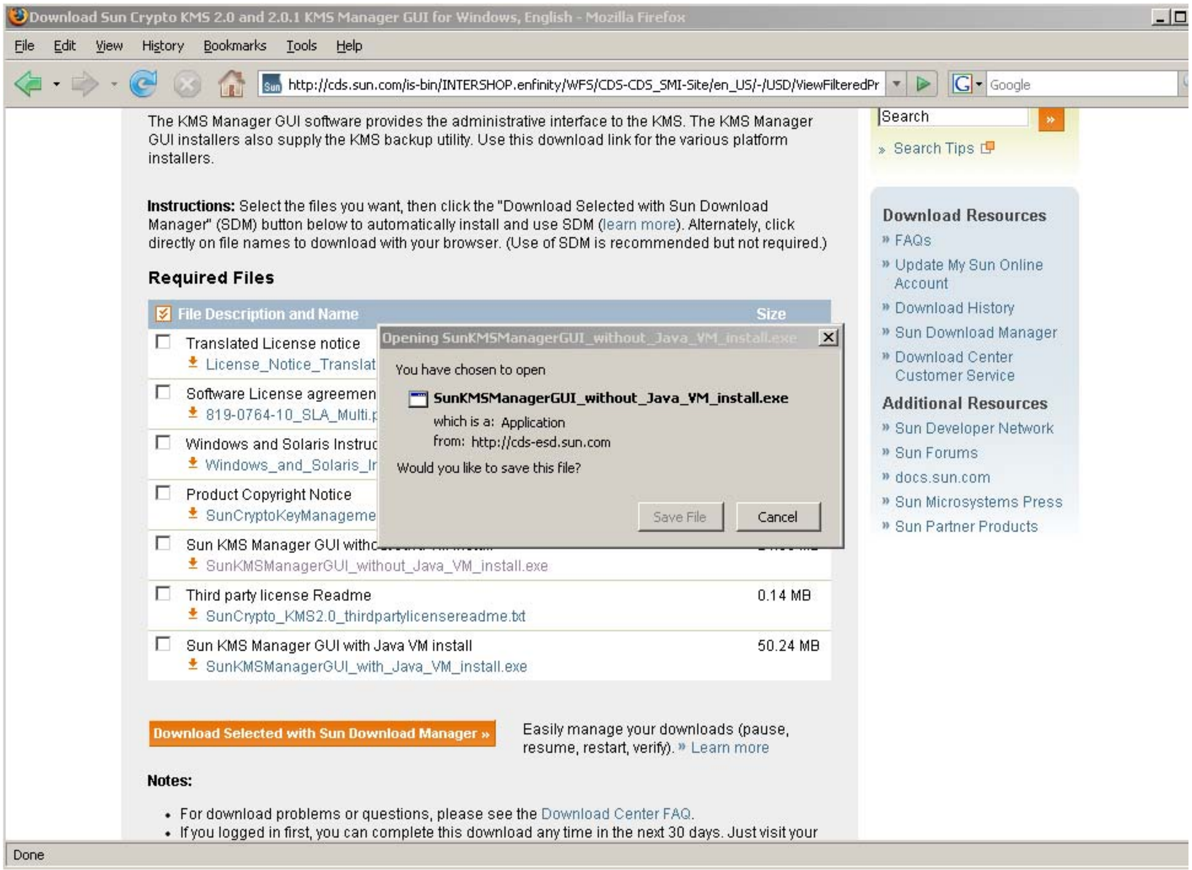
» docs.sun.com
» Sun Microsystems Press
» Sun Partner Products

The installer shortcut should now be on your desktop.

See “Starting the KMS Installation” on page 55 to initialize the installer program.

Direct Download:

Click directly on the file name and click **Save File** to download the installer with your browser. The installer shortcut is installed directly to your desktop.



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The KMS Manager GUI software provides the administrative interface to the KMS. The KMS Manager GUI installers also supply the KMS backup utility. Use this download link for the various platform installers.

Instructions: Select the files you want, then click the "Download Selected with Sun Download Manager" (SDM) button below to automatically install and use SDM (learn more). Alternately, click directly on file names to download with your browser. (Use of SDM is recommended but not required.)

Required Files

☑ File Description and Name	Size
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☐ Windows and Solaris Instruc Windows_and_Solaris_Ir	
☐ Product Copyright Notice SunCryptoKeyManageme	
☐ Sun KMS Manager GUI witho SunKMSManagerGUI_without_Java_VM_install.exe	
☐ Third party license Readme SunCrypto_KMS2.0_thirdpartylicensereadme.txt	0.14 MB
☐ Sun KMS Manager GUI with Java VM install SunKMSManagerGUI_with_Java_VM_install.exe	50.24 MB

Opening SunKMSManagerGUI_without_Java_VM_install.exe

You have chosen to open

SunKMSManagerGUI_without_Java_VM_install.exe

which is a: Application

from: http://cds-esd.sun.com

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Easily manage your downloads (pause, resume, restart, verify). » Learn more

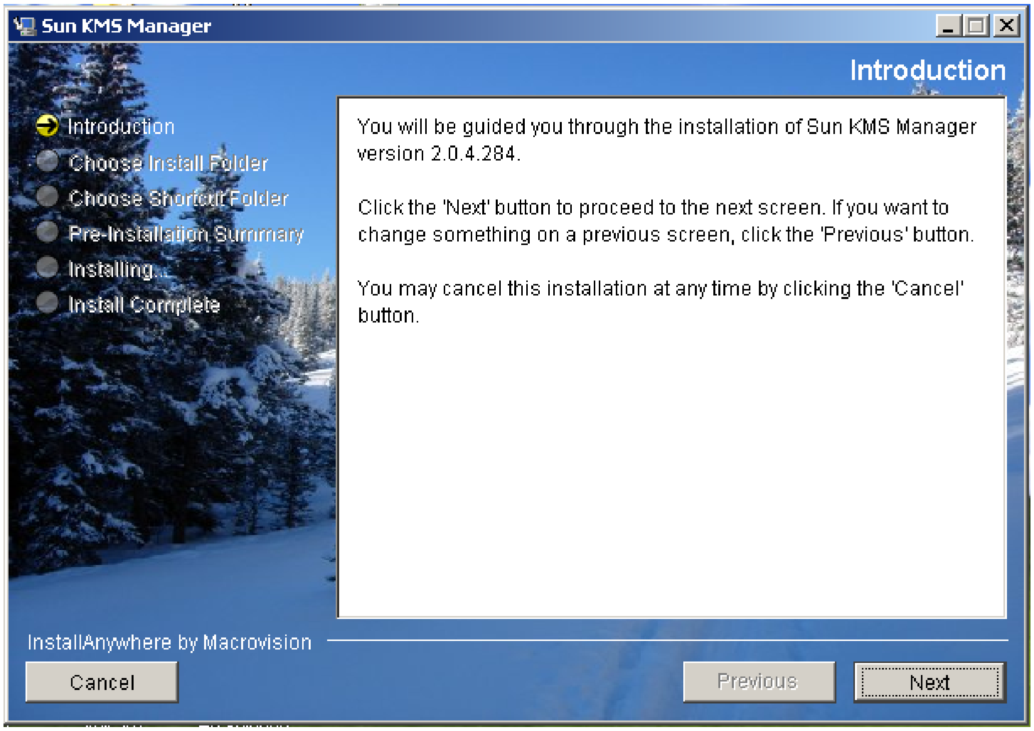
Notes:

- For download problems or questions, please see the Download Center FAQ.
- If you logged in first, you can complete this download any time in the next 30 days. Just visit your

See "Starting the KMS Installation" on page 55 to initialize the installer program.

Starting the KMS Installation

7. Double-click the shortcut to start the installer program. The Introduction window is displayed.



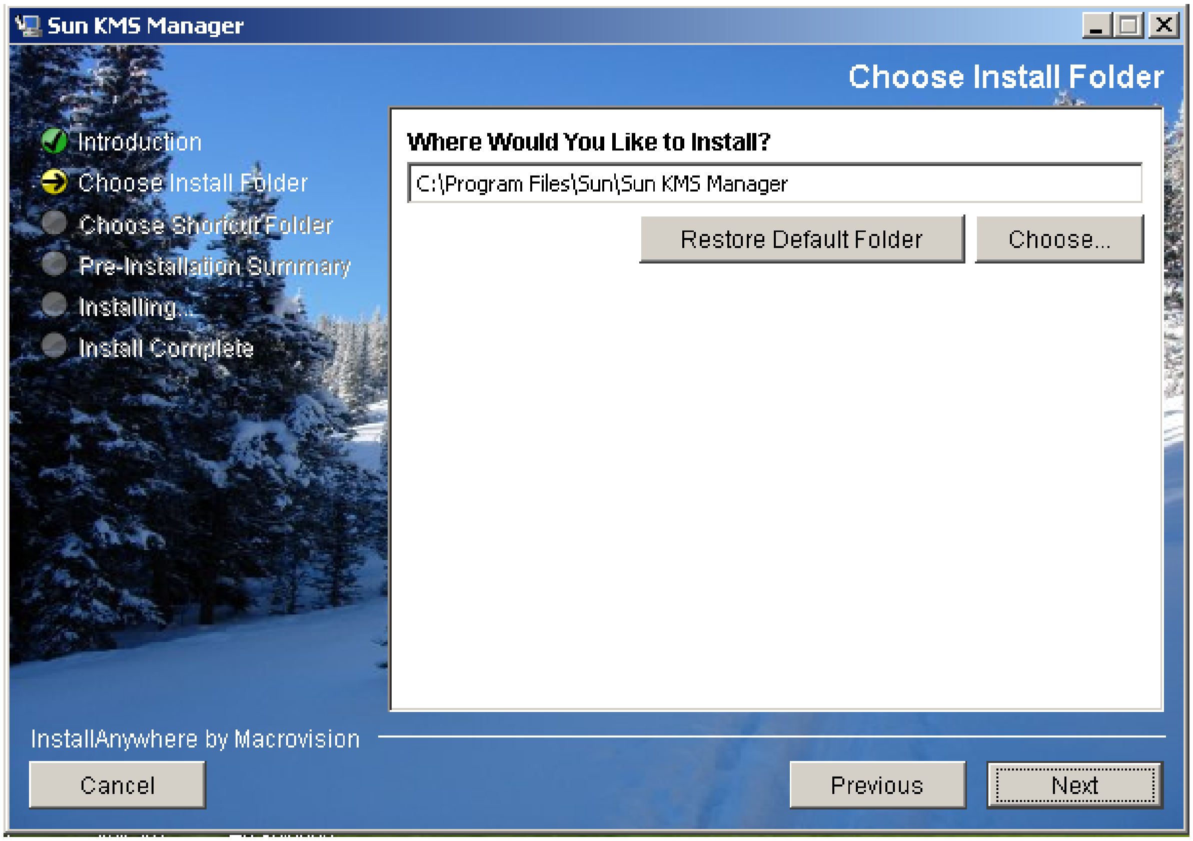
You will be guided you through the installation of Sun KMS Manager version 2.0.4.284.

Click the 'Next' button to proceed to the next screen. If you want to change something on a previous screen, click the 'Previous' button.

You may cancel this installation at any time by clicking the 'Cancel' button.

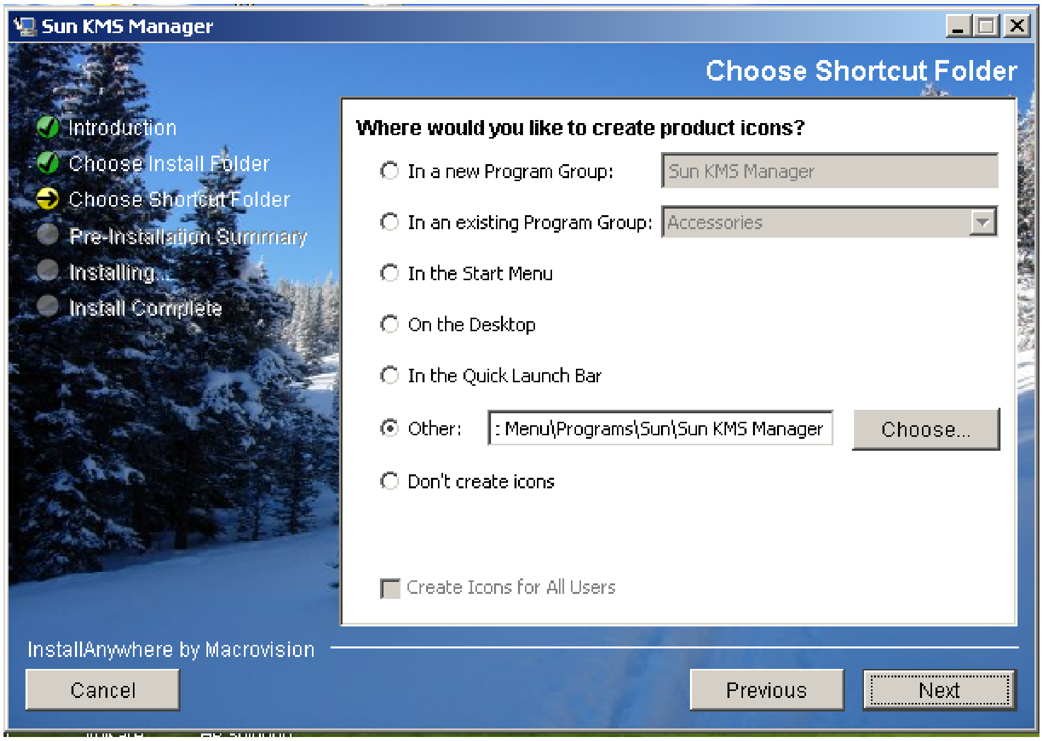
8. Select Next.

9. The Choose Install Folder window is displayed.



10. To select the default folder, select Next, or supply your own installation folder, and select Next.

11. The Choose Shortcut Folder window is displayed, allowing you to create the product icons where you desire.



Choose Shortcut Folder

Where would you like to create product icons?

○ In a new Program Group: Sun KMS Manager

○ In an existing Program Group: Accessories

○ In the Start Menu

○ On the Desktop

○ In the Quick Launch Bar

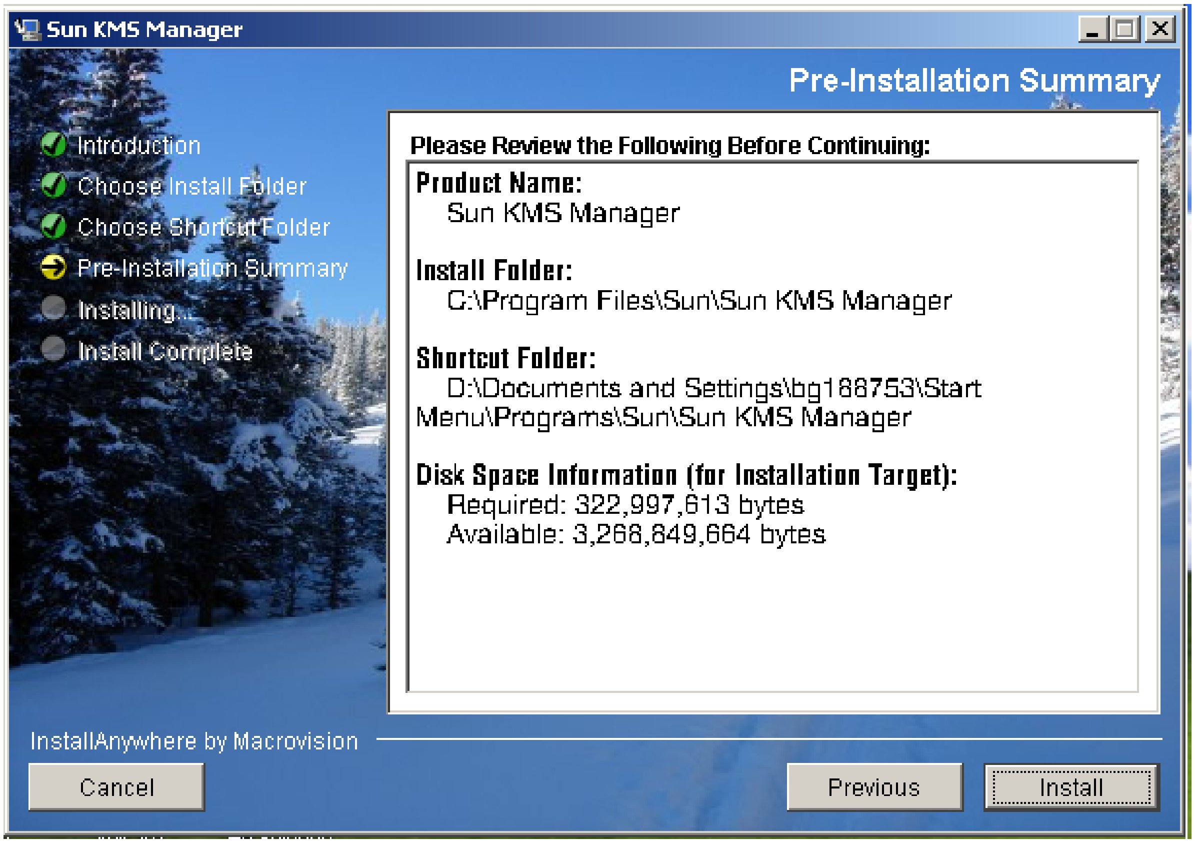
● Other: : Menu\Programs\Sun\Sun KMS Manager

○ Don't create icons

□ Create Icons for All Users

12. Select Next after you make your choice.

13. The Pre-Installation summary screen is displayed.



Please Review the Following Before Continuing:

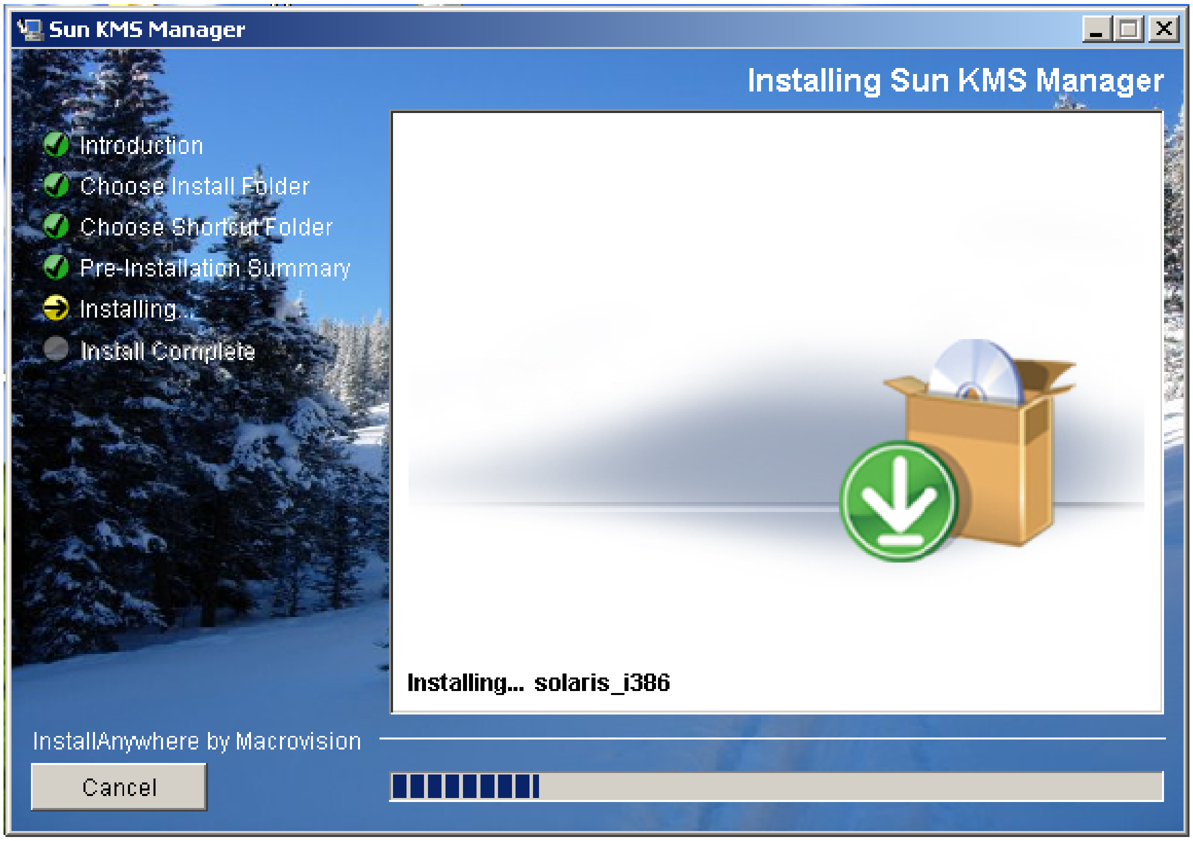
Product Name:
Sun KMS Manager

Install Folder:
C:\Program Files\Sun\Sun KMS Manager

Shortcut Folder:
D:\Documents and Settings\bg188753\Start Menu\Programs\Sun\Sun KMS Manager

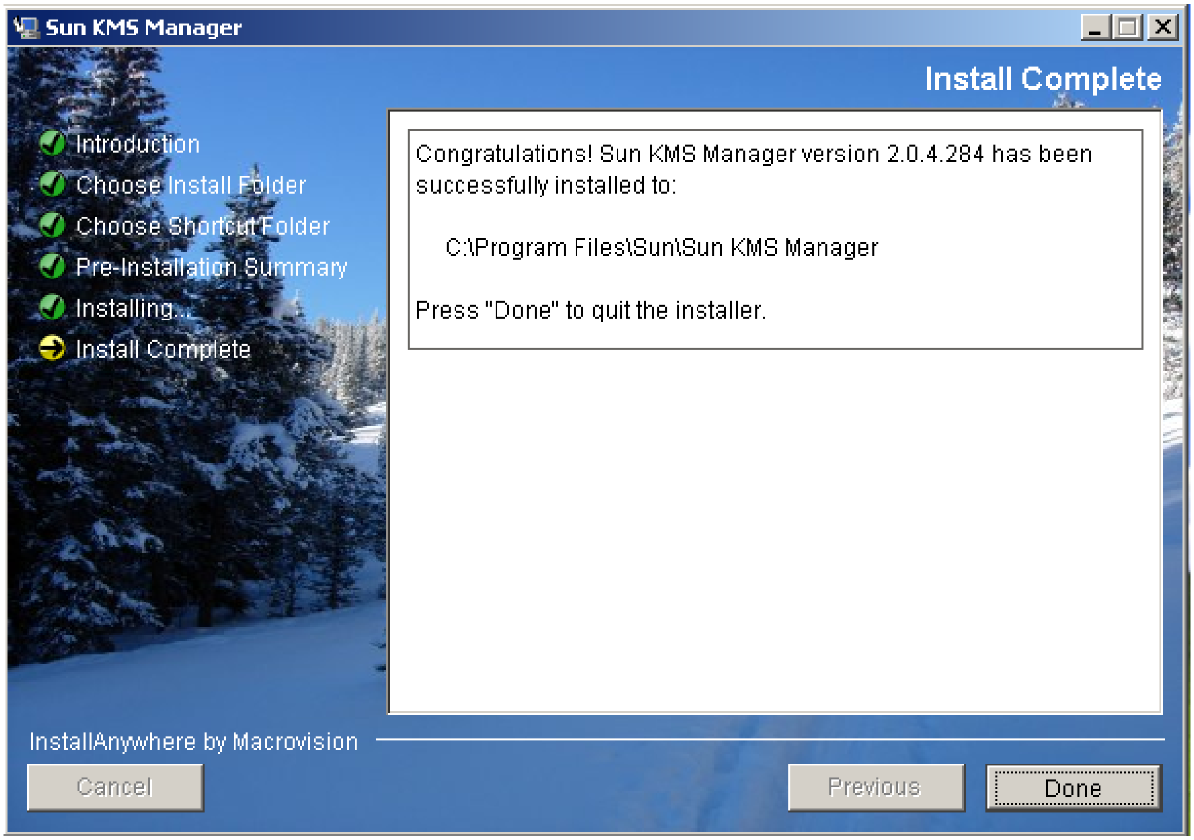
Disk Space Information (for Installation Target):
Required: 322,997,613 bytes
Available: 3,268,849,664 bytes

14. Select Install to install the KMS Manager, or select Previous to revise your setup.



Installing... solaris_i386

15. The installation process is now complete. Select Done to exit.



Congratulations! Sun KMS Manager version 2.0.4.284 has been successfully installed to:

C:\Program Files\Sun\Sun KMS Manager

Press "Done" to quit the installer.

Invoking the KMS Manager

Two methods can be used to invoke the KMS Manager, depending on your environment:

- startup with Windows
- startup with Solaris

Starting the KMS Manager with Windows

If you instructed the installation program to create a shortcut, double-click it to launch the KMS Manager application.

Otherwise, launch Windows Explorer, navigate to where you installed the KMS Manager, and invoke KMS_Manager.exe.

Starting the KMS Manager with Solaris

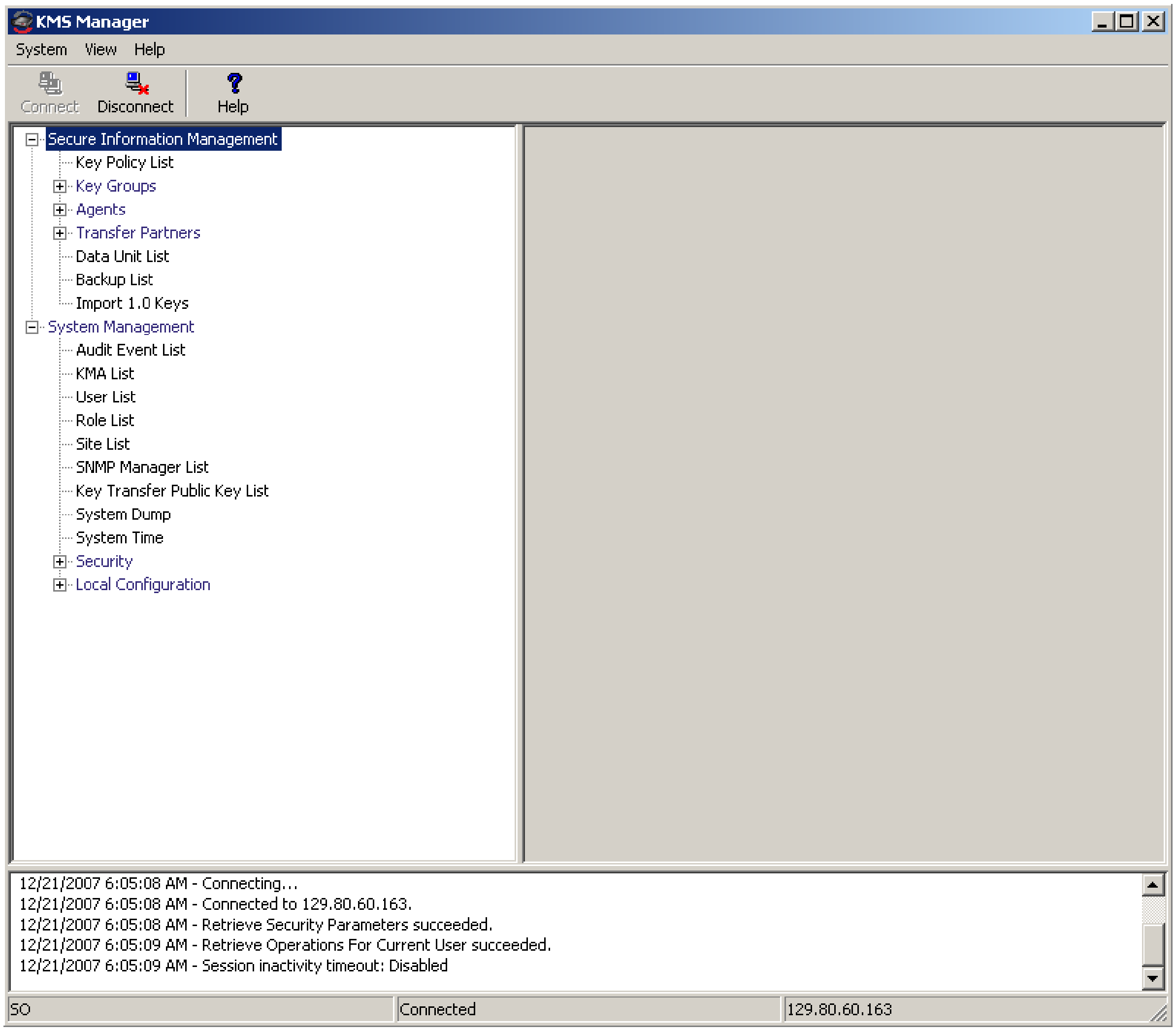
As with Windows, you can direct the installation program to create a shortcut. For example, if you create the shortcut in your home directory, you can invoke it at a shell prompt by entering:

```
~/KMS_Manager
```

Alternatively, you can navigate to where you installed the KMS Manager and invoke KMS_Manager exe.

KMS Manager GUI Overview

The KMS Manager GUI is shown below with a sample menu.

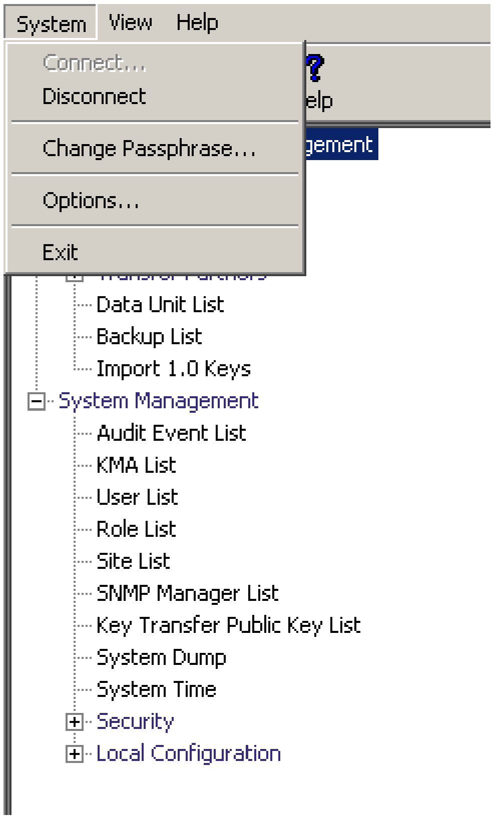


```
12/21/2007 6:05:08 AM - Connecting...
12/21/2007 6:05:08 AM - Connected to 129.80.60.163.
12/21/2007 6:05:08 AM - Retrieve Security Parameters succeeded.
12/21/2007 6:05:09 AM - Retrieve Operations For Current User succeeded.
12/21/2007 6:05:09 AM - Session inactivity timeout: Disabled
```

The KMS Manager GUI contains a convenient System menu, View menu, and Help menu. Click on the appropriate action bar item to display a menu and then select a menu item.

Toolbar buttons provide shortcuts to several menu options.

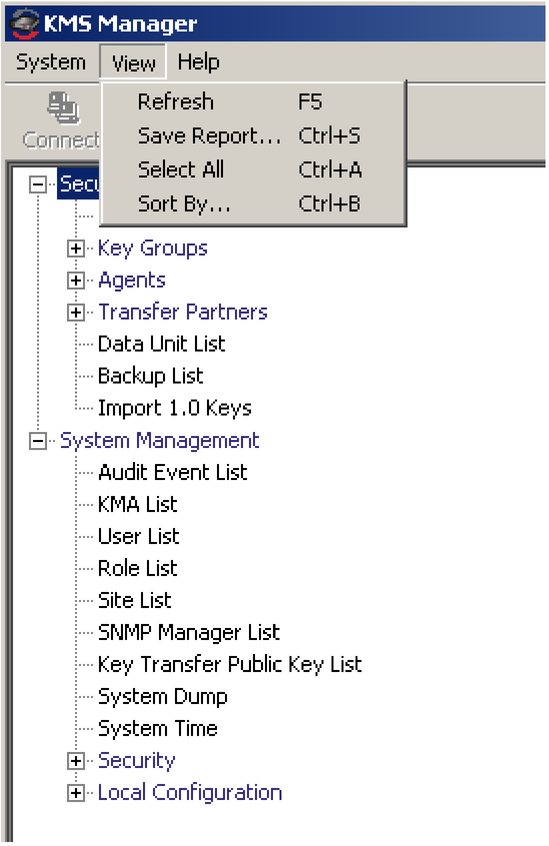
System Menu



System Menu Options

- **Connect...**: Displays the Connect to Cluster dialog box that allows you to connect to a pre-existing Cluster using a Profile or create a new Cluster profile.
- **Disconnect**: Displays the Disconnect from KMA dialog box that allows you to disconnect from the KMA.
- **Change Passphrase...**: Displays the Change passphrase dialog box that allows you to modify the passphrase.
- **Options...**: Displays the Options dialog box that is used to specify various configuration settings.
- **Exit:** Closes the KMS Manager GUI.

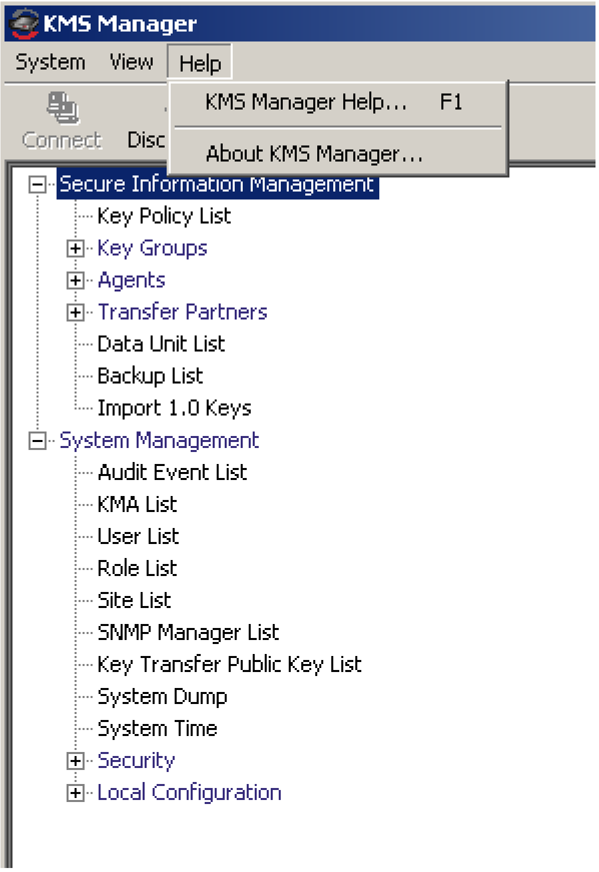
View Menu



View Menu Options

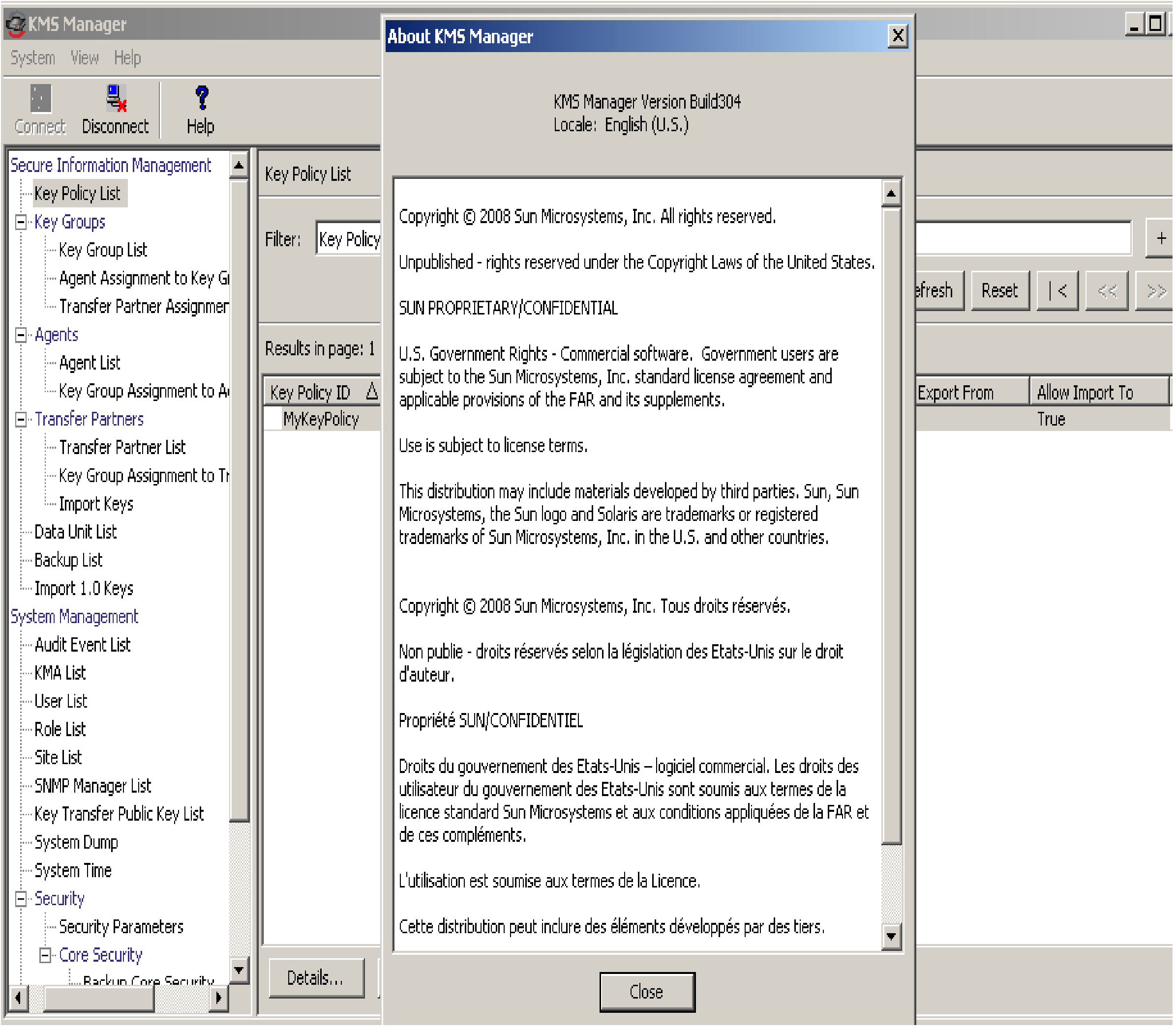
- **Refresh:** Refreshes the screen.
- **Save Report...:** Save Report allows you to download the contents of any List screen. to a text file on the system where the KMS Manager is running.
- **Select All:** Select All selects all items on a List screen.
- **Sort By:** Sorts a list of items on a List screen. This is equivalent to clicking on column headings in a list.

Help Menu


KMS Manager
System
View
Help
KMS Manager Help... F1
About KMS Manager...
Connect
Disc
Secure Information Management
Key Policy List
Key Groups
Agents
Transfer Partners
Data Unit List
Backup List
Import 1.0 Keys
System Management
Audit Event List
KMA List
User List
Role List
Site List
SNMP Manager List
Key Transfer Public Key List
System Dump
System Time
Security
Local Configuration

Help Menu Options

- **KMS Manager Help...**: Displays the online help index and table of contents for KMS Manager.
- **About KMS Manager...**: Displays the version and copyright information about KMS Manager. Choose the Close button to close this dialog box.



KMS Manager Version Build304
Locale: English (U.S.)

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Toolbar Buttons

The table below describes the Toolbar buttons on the KMS.

Button	Description
Connect	Displays the Connect to KMA dialog box that allows the user to connect to a KMA by selecting a profile.
Disconnect	Displays the Disconnect from KMA dialog box that allows the user to disconnect from the KMA.
Help	Displays the online help index and table of contents for KMS.

Shortcut Keys

Shortcut keys allows you to choose commands in a single step. The following shortcut keys are used:

Cuts the current selection	Ctrl+X
Copies the current selection	Ctrl+C
Copies the contents from the Clipboard to the current selection point	Ctrl+V
Brings up a dialog box to save a report to a local site	Ctrl+S

Menu Accelerator Keys

Menu accelerator keys are supported for all menu items. Hold down the “Alt” key to display the accelerator keys.

Using Online Help

You can use online help for complete information about the KMS. Online help is easy to use. You are able to view topics in various ways. You can:

- Browse a table of contents
- Search for keywords
- Use an index
- Navigate backward
- Print topics.

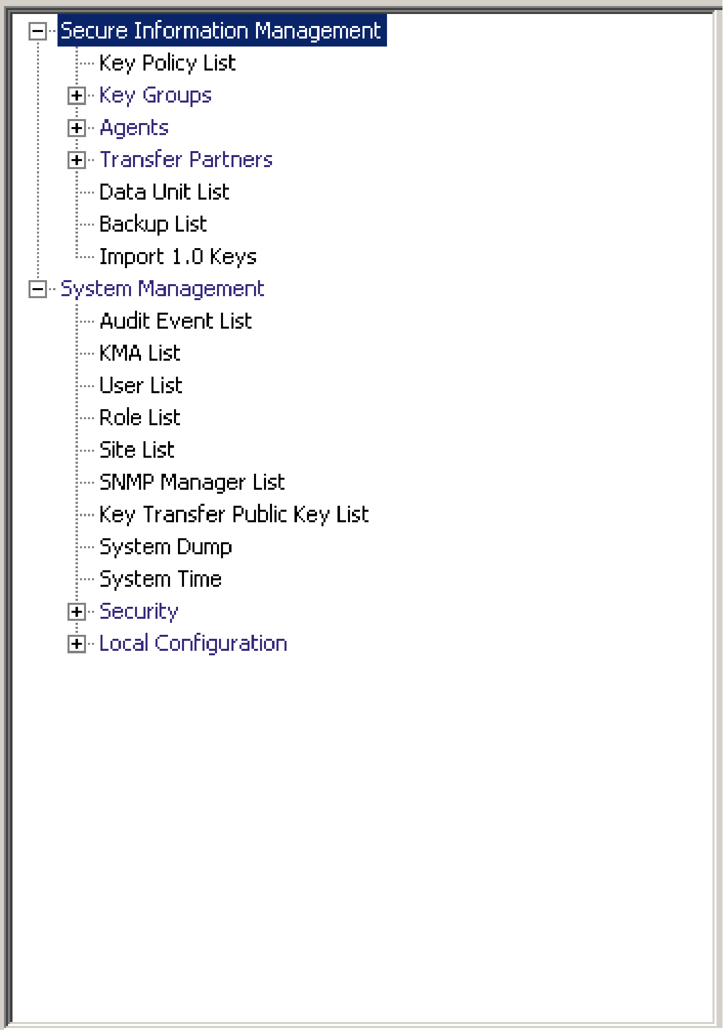
KMS Manager GUI Panes

The KMS Manager GUI includes three panes:

- KMS Management Operations Tree
- KMS Management Operation Details
- Session Audit Log.

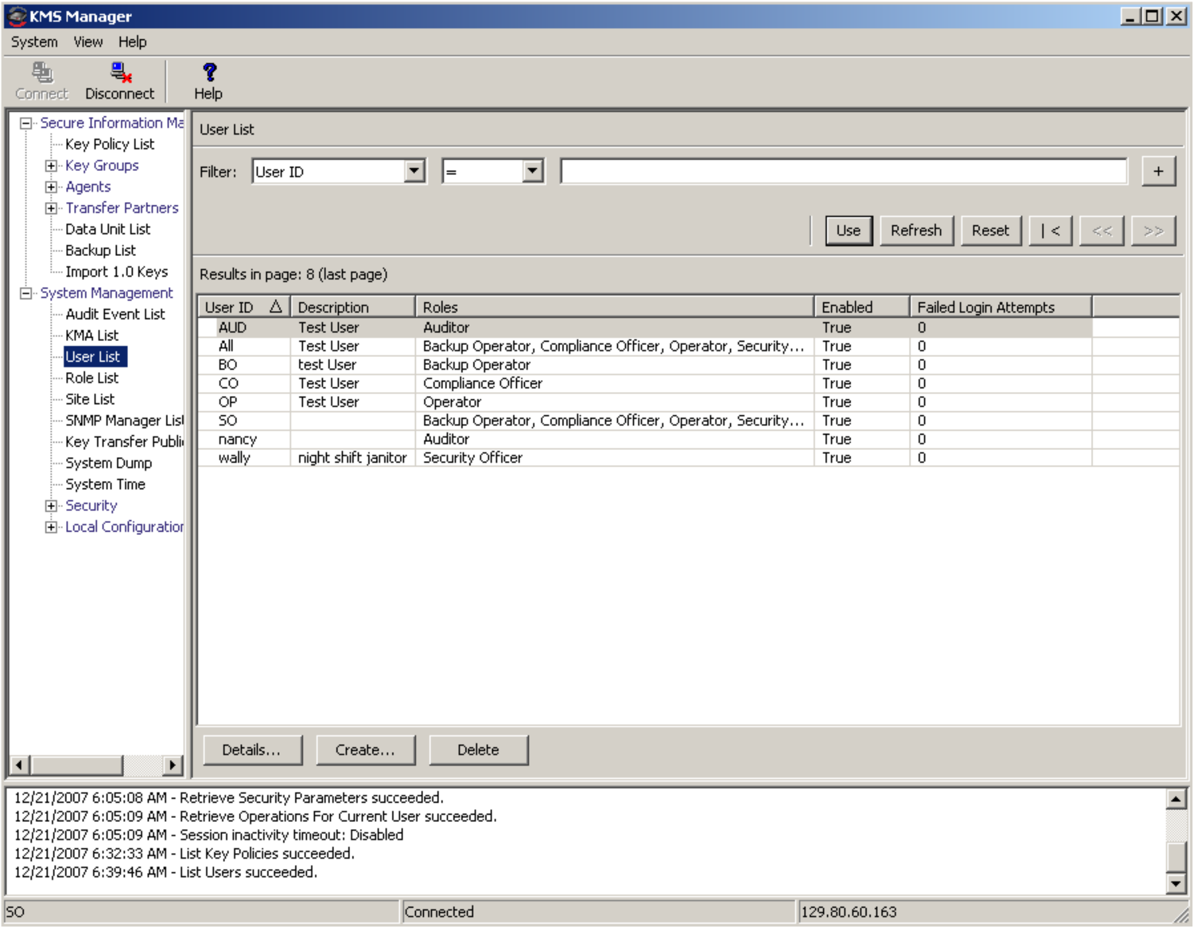
KMS Management Operations Tree Pane

The KMS Management Operations Tree pane, located on the left-side of the screen, displays all operational functions of the KMS. Depending on your assigned role(s), the options on this tree pane differ. The example below shows the operations that a Security Officer can perform.



KMS Management Operation Details Pane

When an operation is selected, the KMS Manager Operation Details pane, to the right of the Operations Tree Pane, displays the required components for the selected operations. The user can apply filters on the items that are displayed in list panels. The example below shows the User List, when the User List menu option was selected from the System Management menu in the Operations Tree pane.



Filter: User ID =

Results in page: 8 (last page)

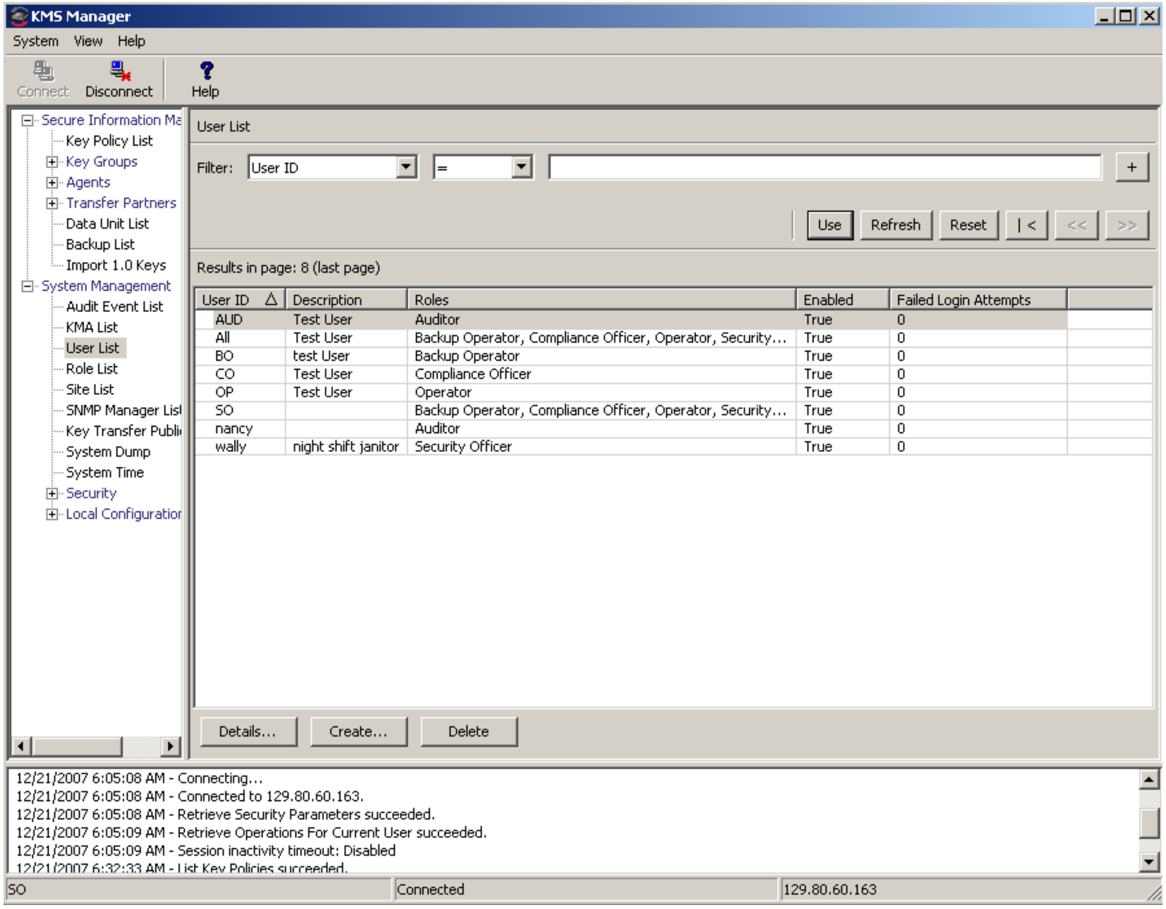
User ID	Description	Roles	Enabled	Failed Login Attempts
AUD	Test User	Auditor	True	0
All	Test User	Backup Operator, Compliance Officer, Operator, Security...	True	0
BO	test User	Backup Operator	True	0
CO	Test User	Compliance Officer	True	0
OP	Test User	Operator	True	0
SO		Backup Operator, Compliance Officer, Operator, Security...	True	0
nancy		Auditor	True	0
wally	night shift janitor	Security Officer	True	0

```
12/21/2007 6:05:08 AM - Retrieve Security Parameters succeeded.
12/21/2007 6:05:09 AM - Retrieve Operations For Current User succeeded.
12/21/2007 6:05:09 AM - Session inactivity timeout: Disabled
12/21/2007 6:32:33 AM - List Key Policies succeeded.
12/21/2007 6:39:46 AM - List Users succeeded.
```

SO | Connected | 129.80.60.163

Session Audit Log Pane

The Session Audit Log pane, below the Operations Tree Pane and the Operations Details Pane, provides a scrollable list of the most recent session events.



Filter: User ID =

Results in page: 8 (last page)

User ID	Description	Roles	Enabled	Failed Login Attempts
AUD	Test User	Auditor	True	0
All	Test User	Backup Operator, Compliance Officer, Operator, Security...	True	0
BO	test User	Backup Operator	True	0
CO	Test User	Compliance Officer	True	0
OP	Test User	Operator	True	0
SO		Backup Operator, Compliance Officer, Operator, Security...	True	0
nancy		Auditor	True	0
wally	night shift janitor	Security Officer	True	0

```
12/21/2007 6:05:08 AM - Connecting...
12/21/2007 6:05:08 AM - Connected to 129.80.60.163.
12/21/2007 6:05:08 AM - Retrieve Security Parameters succeeded.
12/21/2007 6:05:09 AM - Retrieve Operations For Current User succeeded.
12/21/2007 6:05:09 AM - Session inactivity timeout: Disabled
12/21/2007 6:32:33 AM - List Key Policies succeeded.
```

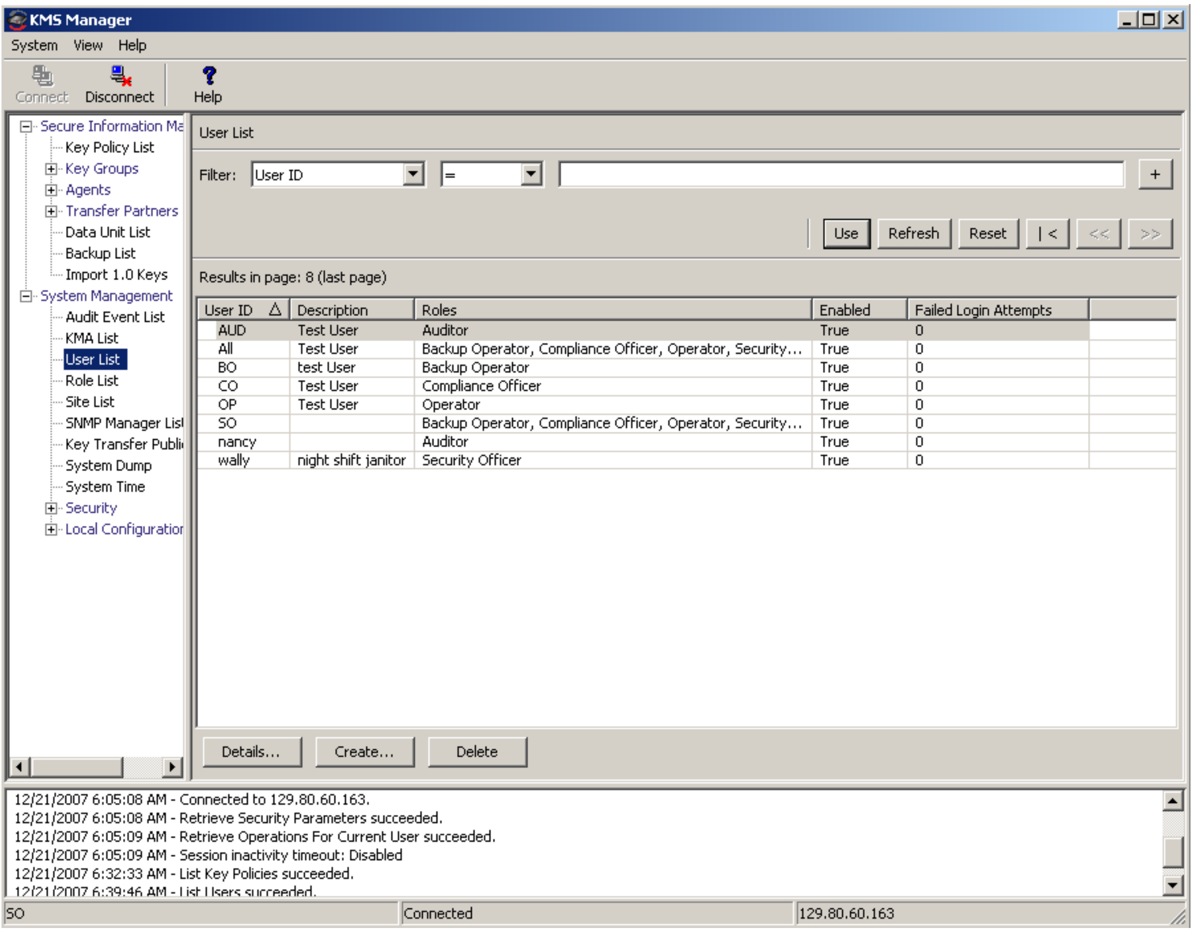
SO | Connected | 129.80.60.163

Status Bar

The Status Bar, at the bottom of the screen, is comprised of the following fields:

- **User Name:** Displays the username of the currently logged-in user. In the screen below, the Security Officer (SO) is logged in.
- **Connection Status:** Displays the state of the current connection, that is, **Connected**
- **KMA IP Address:** Displays the Management Network IP address and Name of the target KMA.

If there is no connection to the KMA, the Status fields are blank.



Filter: User ID =

Results in page: 8 (last page)

User ID	Description	Roles	Enabled	Failed Login Attempts
AUD	Test User	Auditor	True	0
All	Test User	Backup Operator, Compliance Officer, Operator, Security...	True	0
BO	test User	Backup Operator	True	0
CO	Test User	Compliance Officer	True	0
OP	Test User	Operator	True	0
SO		Backup Operator, Compliance Officer, Operator, Security...	True	0
nancy		Auditor	True	0
wally	night shift janitor	Security Officer	True	0

```
12/21/2007 6:05:08 AM - Connected to 129.80.60.163.
12/21/2007 6:05:08 AM - Retrieve Security Parameters succeeded.
12/21/2007 6:05:09 AM - Retrieve Operations For Current User succeeded.
12/21/2007 6:05:09 AM - Session inactivity timeout: Disabled
12/21/2007 6:32:33 AM - List Key Policies succeeded.
12/21/2007 6:39:46 AM - List Users succeeded.
```

SO | Connected | 129.80.60.163

Panels

The are common panel components in the KMS Manager screens. These are described below:

Title

Displays the title of the screen.

Filter

Allow you to filter the database by specific keys. It contains the following components:

Table label: Specifies the table to which the filtering applies

Filter Attribute combo box: Indicates the fields to filter

Filter Operator 1 combo box: Provides the filter operators that are applied to Filter Value 1. The filter operations are:

- Equals =
- Not equal <>
- Greater than >
- Less than <
- Greater than or equals >=
- Less than or equals <=
- Starts with ~
- Empty
- Not Empty

Filter Value 1 control: Used as a single value or the starting value of the filter key range

Filter Value 2 control: Used as a single value or the ending value of the filter key range

Use button: Applies the filter to the displayed list.

Refresh:

Click this button to refresh the displayed list. This does not apply filters selected since the last Use or Reset, and does not change the page of the list.

Reset:

Click this button to remove all filters and reset the displayed list to the first page.

|<

Click this button to go to the first page of the list.

<<

Click this button to go to the previous page.

>>

Click this button to go to the next page.

Results in Page:

Displays the number of items that can be displayed on the current page. Appends "(last page)" if you are at the end of the list. The maximum number of items displayed on a page is defined by the Query Page Size value on the Options dialog.

Note – If the number of records output is greater than the Query Page Size, multiple pages are displayed. Click the buttons below the filters to move between pages.

Sorting:

Click on a column heading to sort the list by that field. If the output requires multiple pages, the complete set of results is sorted, then the corresponding page is returned.

Message

Displays messages that are related to database queries. It works in conjunction with the Database View list. It contains the following components:

- Static text label: Displays error messages, such as:

  ```
  Result limit exceeded. 10,000 results returned. Use a filter to
  reduce the filter size.
  ```

Uninstalling the KMS Manager Software

Two options are available to begin to uninstall the KMS software:

- navigate to the directory where the uninstall program resides and launch the executable file from there
- for Windows users only, launch the Add or Remove Programs process

In both cases, the Preparing Setup window will be displayed after you finish these procedures. See "Completing the Uninstall Process" on page 76.

Invoking the Executable File

To uninstall the KMS Manager software:

1. Navigate to the "Uninstall_Sun KMS Manager" directory, which resides under the directory where the KMS Manager was installed.

2. Invoke the "Uninstall Sun KMS Manager" (Windows) or "Uninstall_Sun_KMS_Manager" (Solaris) executable to launch the uninstall process.

3. The Preparing Setup window is displayed, while the install/uninstall program prepares for the uninstall process.

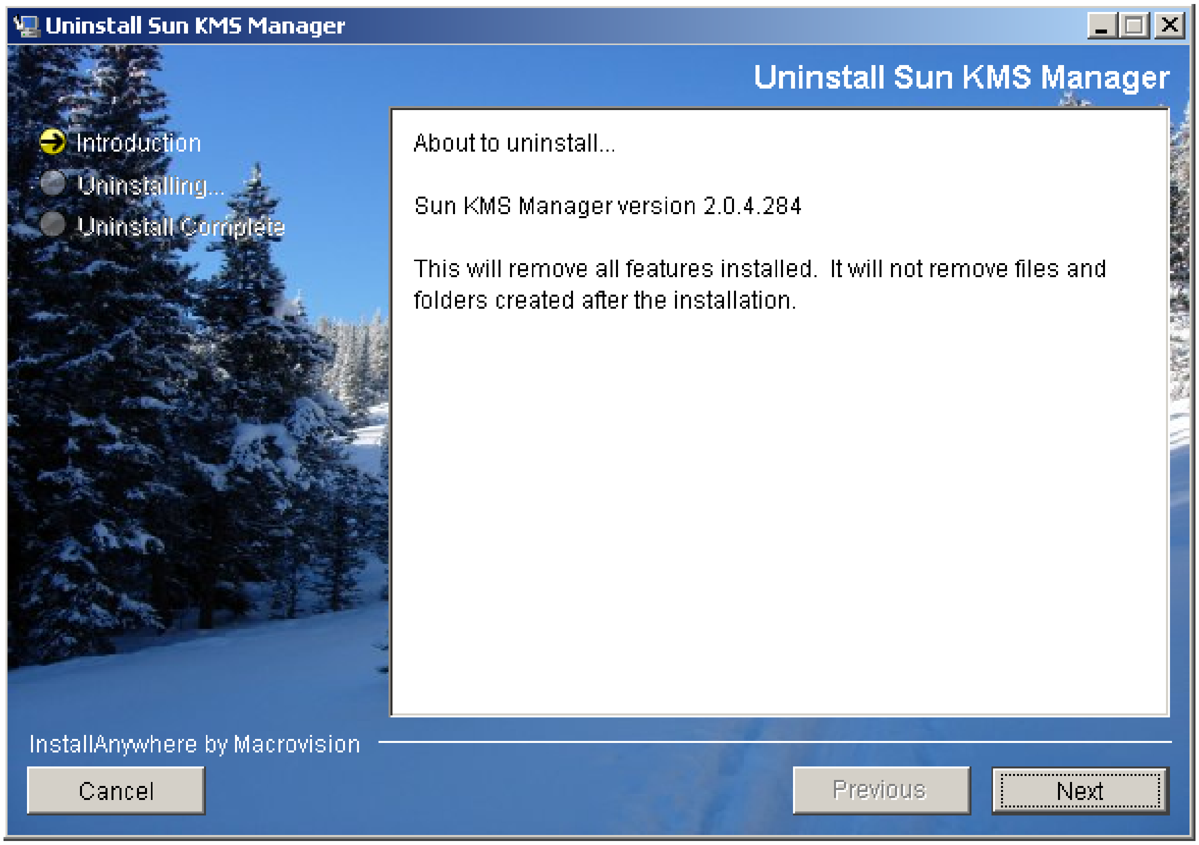
Invoking Add/Remove Programs (Windows Only)

1. Click **Start**, select **Settings**, **Control Panel,** double-click **Add or Remove Programs**. The Add or Remove Programs window is displayed. Scroll down the list (if the software is not visible), select Sun KMS Manager, then choose the Change/Remove button.

2. The Preparing Setup window is displayed, while the install/uninstall program prepares for the uninstall process.

Completing the Uninstall Process

The KMS uninstall dialog box is displayed, prompting you to confirm that you want to remove the selected application and all its features.



Uninstall Sun KMS Manager
Uninstall Sun KMS Manager
Introduction
Uninstalling...
Uninstall Complete
InstallAnywhere by Macrovision
Cancel
Previous
Next

About to uninstall...

Sun KMS Manager version 2.0.4.284

This will remove all features installed. It will not remove files and folders created after the installation.

1. Choose the Next button to continue or choose the Cancel button to stop the process and return to the Add or Remove Program window (Windows) or shell prompt (Solaris).

Note – Your connection profiles will not be removed.

---

2. When the uninstall process is completed, the Uninstall Complete window is displayed. Choose the Finish button to close this window. Close this window to return to the Add or Remove Program window (Windows) or shell prompt (Solaris).

CHAPTER 4

Using the System Menu

This chapter gives detailed instructions for connecting to the KMA using the KMS Manager. It also gives instructions for using the other options on the System menu.

Connecting to the Cluster

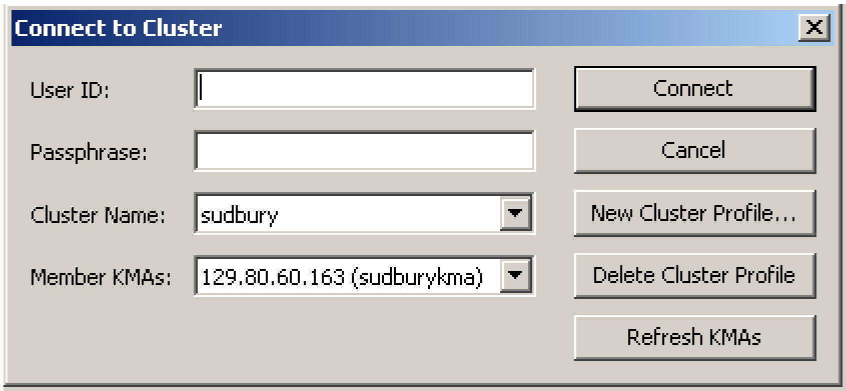
Important – Before connecting to a KMA, at least one Cluster profile must exist and a user must be created and enabled on the KMA.

This section gives procedures for connecting to the KMA using the KMS Manager. If this is the first time that you are connecting to the KMA, you must first define a Cluster profile. On subsequent occasions, you will be able to connect to the KMA using the Cluster profile that you created. The KMS Manager uses the Cluster profile information to initiate communications with a Cluster (the KMA IP address).

Creating a Cluster Profile

To create a Cluster profile:

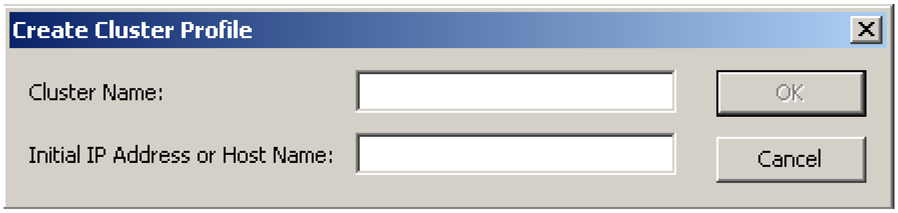
1. From the System menu, select Connect or from the Tool bar, choose Connect . The Connect to Cluster dialog box is displayed. If you have pre-existing profile, the Cluster profile name and its IP address will be displayed in the Cluster Name and IP Address fields respectively.



Cluster Name: sudbury

Member KMAs: 129.80.60.163 (sudburykma)

2. Choose the New Cluster Profile button. The Create Cluster Profile dialog box is displayed.



3. Complete the following parameters:

Cluster Name

Type a value that uniquely identifies the Cluster profile name.

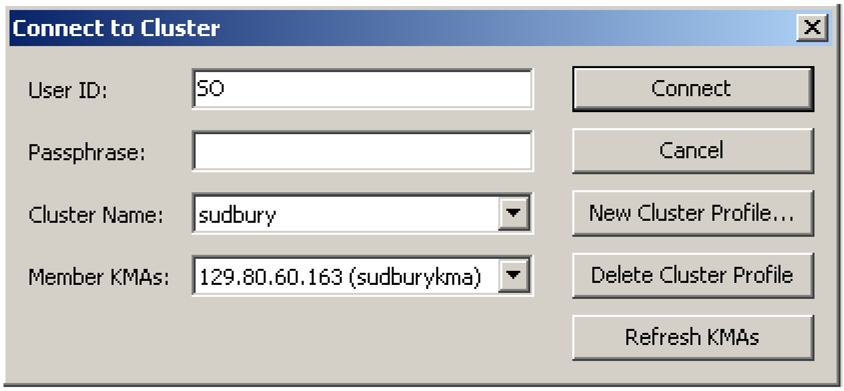
Initial IP Address or Host Name

Type the Service Network IP address or Host Name of the initial KMA in this Cluster to connect to. The choice of which network to connect to depends on what network the computer system where the KMS Manager is running is connected to.

Note – You only have to create a single Cluster profile because covers the entire Cluster and can be used by any user (of the Agent). The only reason that you would want to create another Cluster profile is if you want to establish a second Cluster or you have changed the IP addresses of all KMAs in the current cluster.

---

4. Choose the OK button. The Connect to Cluster dialog box is displayed with the Cluster profile information you created.



Connect to Cluster

User ID: SO

Passphrase:

Cluster Name: sudbury

Member KMAs: 129.80.60.163 (sudburykma)

5. Complete the following parameters and choose the Connect button:

User ID

Type the name of the user who will connect to specified KMA, or if this is the first time that you are connecting to the KMA after performing the initial QuickStart process, type the name of the Security Officer created during the QuickStart.

Passphrase

Type the passphrase for the selected user.

Cluster Name

Select the Cluster to connect to.

Member KMAs

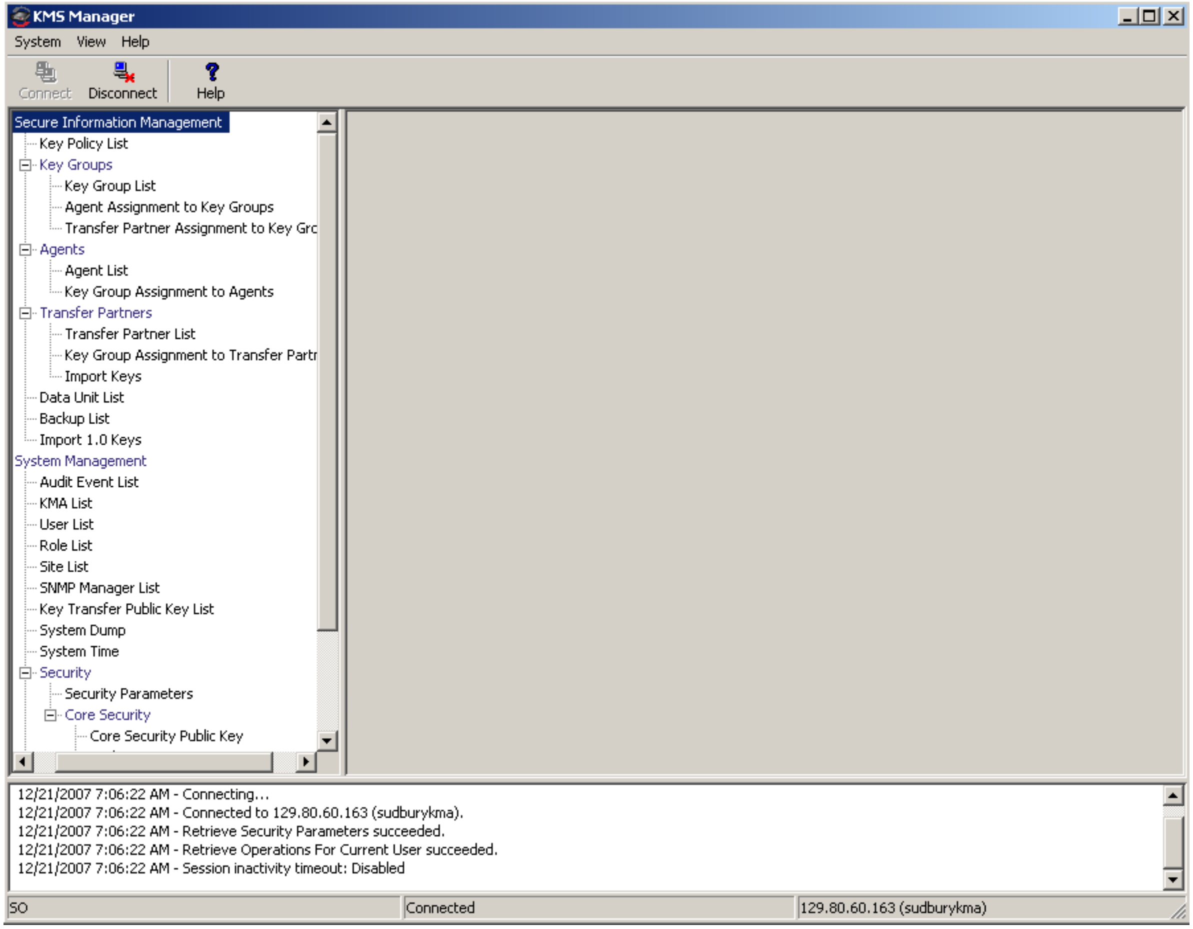
Select the KMA to connect to within that Cluster.

Note – If a KMA has joined the Cluster after the user previously connected to that Cluster, that KMA does not appear in the Member KMAs list. To update the list, enter the user name and passphrase, choose a Cluster profile, and choose the Refresh KMAs button.

Important – The KMA authenticates the user ID and passphrase. The returned list of KMA IP addresses is used to populate the Cluster profile and stored on the host. The next time the user connects to the KMA, the user can enter the user name and passphrase, choose a Cluster profile, and select a KMA.

---

6. If the connection is successful, the Status bar of the KMS Manager GUI displays the user name and alias, the KMA's connection status (**Connected**), the KMA's IP address.



```
12/21/2007 7:06:22 AM - Connecting...
12/21/2007 7:06:22 AM - Connected to 129.80.60.163 (sudburykma).
12/21/2007 7:06:22 AM - Retrieve Security Parameters succeeded.
12/21/2007 7:06:22 AM - Retrieve Operations For Current User succeeded.
12/21/2007 7:06:22 AM - Session inactivity timeout: Disabled
```

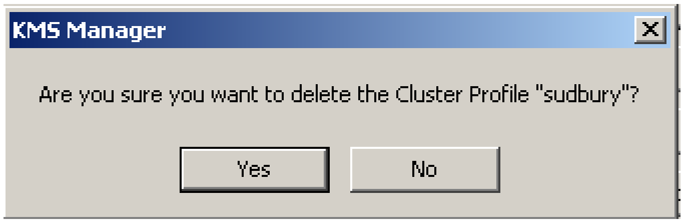
7. You can now use the KMS Manager to perform various operations. See Chapter 5 through Chapter 9 for the operations that various user roles can perform.

Note – Depending on the role assignment, the tasks in the KMA Management Operations Tree pane differ.

Deleting a Cluster Profile

To delete a Cluster profile:

1. From the Connect to Cluster dialog box, choose the down-arrow beside the Cluster Name field, highlight the Cluster profile that you want to delete and choose the Delete Cluster Profile button. The Delete Cluster Profile dialog box is displayed, prompting you to confirm that you want to delete the selected Cluster profile.



Are you sure you want to delete the Cluster Profile "sudbury"?

2. Choose the Yes button to delete the Profile. The Cluster Profile is deleted and you are returned to the Connect to Cluster dialog box.

Disconnecting from the KMA

To disconnect from the KMA:

1. From the System menu, select **Disconnect** or from the Tool bar, click Disconnect . You are immediately disconnected from the KMA and the KMS cluster. The session Audit Log pane indicates the date and time when you disconnected from the KMA.

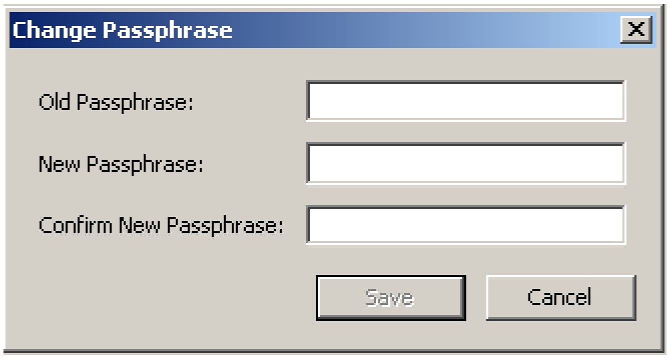
Changing the Passphrase

Note – This menu option is only enabled if the user is connected to a KMA using a profile.

This function allows users to change their own passphrases. This function does not invalidate a user's current certificate.

To change a connected user's passphrase:

1. From the System menu, select **Change Passphrase...**. The Change Passphrase dialog box is displayed.



2. Complete the following parameters and choose the OK button:

Old Passphrase

Type the user's old passphrase.

New Passphrase

Type the user's new passphrase.

Confirm New Passphrase

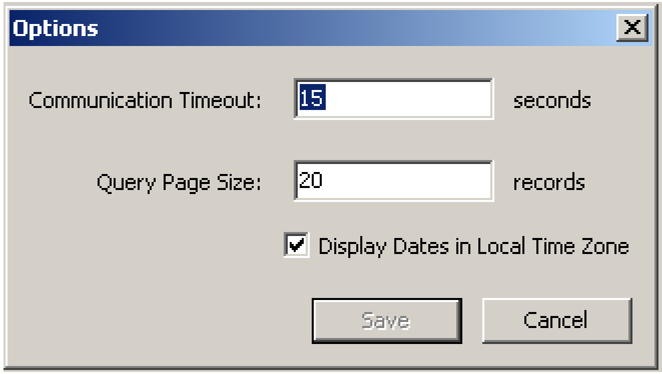
Retype the same passphrase.

3. The following message is displayed in the session Audit Log pane, indicating the date and time when you changed the user's passphrase.

Specifying the Configuration Settings

To specify the configuration settings:

1. From the System menu, select Options.... The Options dialog box is displayed, showing the current configuration settings.



Options

Communication Timeout: 15 seconds

Query Page Size: 20 records

☑ Display Dates in Local Time Zone

2. Modify the following parameters, as required and choose the Save button:

Communication Timeout

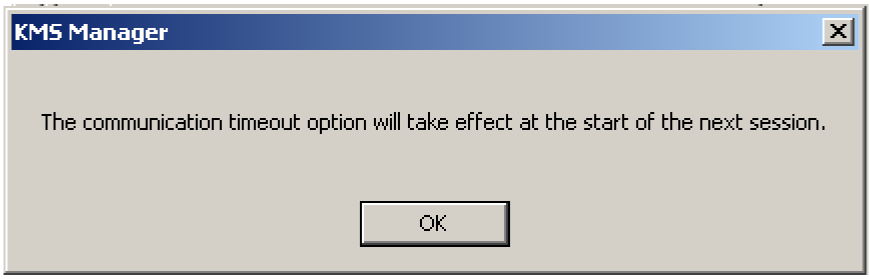
Type a timeout period (in seconds) for communications with the connected KMA. If the KMA does not respond within the timeout value, the KMS Manager will give up on the communication. The minimum value is 1; the maximum value is 60. The default is 15.

Query Page Size

Type the maximum number of items to display on a screen, dialog, or tab on a dialog that displays a list of items. Paging can be used to view a list longer than this limit. The minimum value is 1; the maximum value is 1000. The default is 20.

Display Dates in Local Time Zone

Select this check box to display all dates and times in the local machine's time zone (i.e., where the KMS Manager is running), rather than UTC. The default is selected. The following confirmation message is displayed.



KMS Manager

The communication timeout option will take effect at the start of the next session.

Exiting from the KMS Manager

To exit from the KMS Manager:

1. From the System menu, select **Exit** or from the Title bar, click ☒ . The KMS Manager closes and you are returned to the Windows desktop.
2. The KMS Manager immediately disconnects if connected and closes.

CHAPTER 5

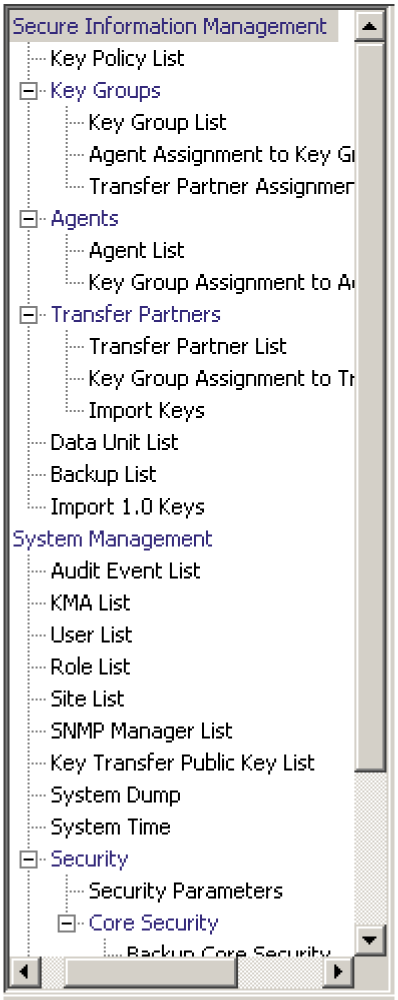
Security Officer Operations

A Security Officer manages security settings, users, sites, and transfer partners. This chapter describes the following:

- operations that a user who has been given a Security Officer role can perform. If you have been assigned multiple roles, refer to the appropriate chapter for instructions on performing the specific role.
- procedures for enabling and disabling a technical support account

Security Officer Role

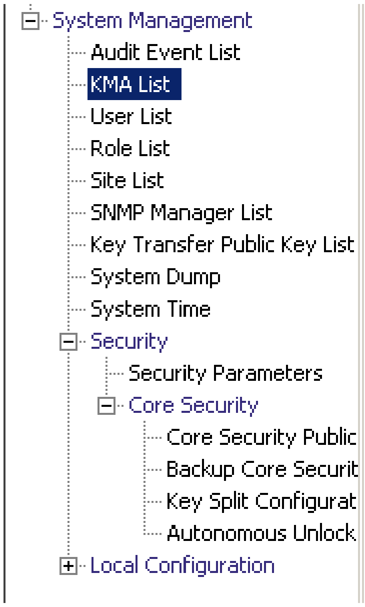
As a Security Officer, you can manage the entities (KMAs, Users, Sites, Transfer Partners) as well as various security aspects of the system.



KMA List Menu

The KMA List menu option allows you to:

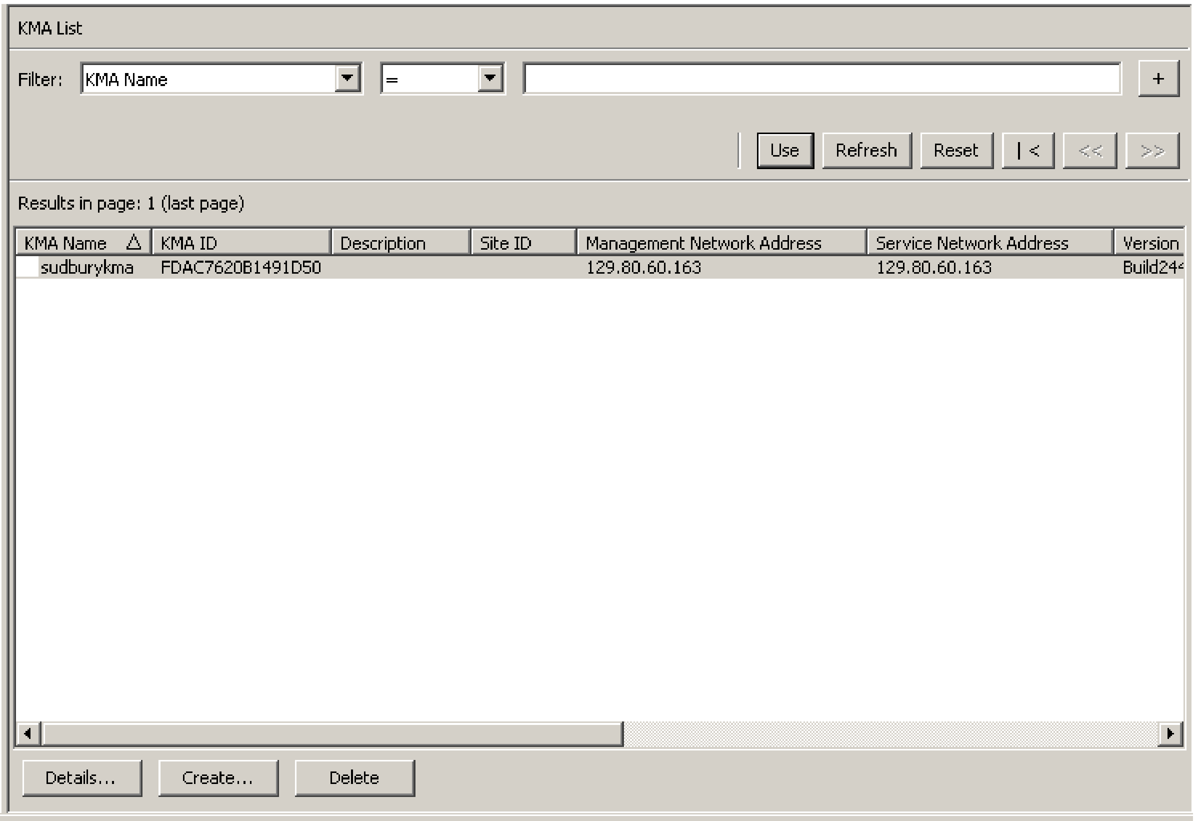
- View KMAs
- Create a KMA
- Modify a KMA's information
- Delete a KMA.



Viewing KMAs

To view KMAs:

From the System Management menu, select KMA List. The KMA List screen is displayed.



Results in page: 1 (last page)

KMA Name △	KMA ID	Description	Site ID	Management Network Address	Service Network Address	Version
sudburykma	FDAC7620B1491D50			129.80.60.163	129.80.60.163	Build24

You can also scroll through the database and filter the KMA list by any of the following keys:

- KMA Name
- KMA ID
- Description
- Site ID
- Management Network Address
- Service Network Address
- Version
- Failed Login Attempts
- Responding
- Response Time
- Replication Lag Size
- Key Pool Ready
- Enrolled.

The **Use** button applies the filter to the displayed list for the KMA.

The fields and their descriptions are given below:

Filter:

Displays the fields that you can use to filter the results of queries made to the KMA. Possible values are:

- KMA Name
- Description
- Site ID
- Management Network Address
- Service Network Address
- Version
- Failed Login Attempts
- Enrolled

Filter Operator box:

Click the down-arrow and select the filter operation you want. Possible values are:

- Equals =
- Not equal <>
- Greater than >
- Less than <
- Greater than or equals >=
- Less than or equals <=
- Starts with ~
- Empty
- Not empty

Filter Value 1 box:

Type a value in this field.

Use:

Click this button to apply the filter to the displayed list.

Refresh:

Click this button to refresh the list.

Reset:

Click this button to remove all filters and reset the displayed list to the first page.

|<

Click this button to go to the first page of the list.

<<

Click this button to go to the previous page.

>>

Click this button to go to the next page.

Results in Page:

Displays the number of records per page that were configured in the Query Page Size field in the Options dialog box.

KMA Name

Displays the user-supplied identifier that distinguishes each KMA in a cluster.

KMA ID

Displays a system-generated unique identifier that identifies the KMA.

Description

Describes the KMA.

Site ID

Describes the site to which the KMA belongs.

Management Network Address

Displays the IP address of the KMA on the management network.

Service Network Address

Displays the service network address of the KMA on the service network.

Version

Displays the version number of the KMA software.

Failed Login Attempts

Displays the number of times that an attempted logon has failed.

Responding

Indicates whether the KMA is running. Possible values are True or False.

Response Time

Displays the time (in milliseconds) that the KMA takes to respond to a request.

Replication Lag Size

Displays the number of updates waiting to be replicated.

Key Pool Ready

Displays the percentage of unallocated keys that are ready.

Enrolled

Indicates whether the KMA has been added or logged into the Cluster successfully. Possible values are True or False.

If you want to create a KMA, choose the Create button. For more information, refer to "Creating a KMA" on page 91 below.

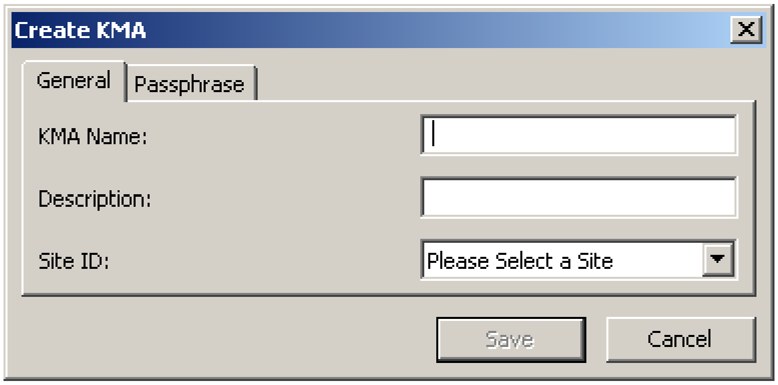
If you want to view / modify a KMA's details, highlight the KMA and choose the Details button. For more information, refer to "Viewing/Modifying a KMA's Details" on page 94.

If you want to delete a KMA, choose the Delete button. For more information, refer to "Deleting a KMA" on page 97.

Creating a KMA

To create a KMA:

1. From the KMA List screen, choose the Create button. The Create KMA dialog box is displayed, with the General tab active.



2. Complete the following parameters:

General Tab

KMA Name

Type a value that uniquely identifies the KMA in a cluster. This value can be between 1 and 64 (inclusive) characters.

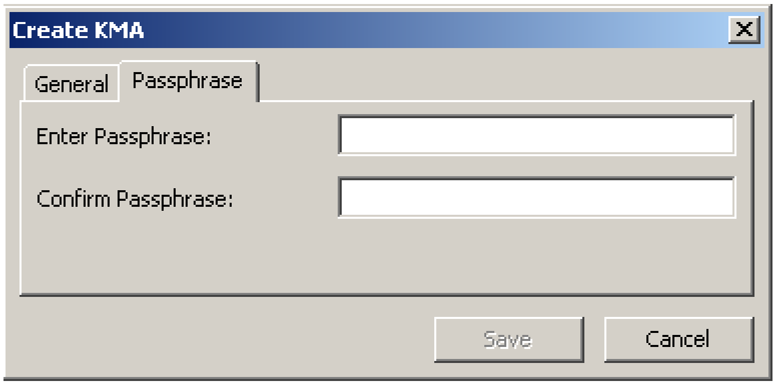
Description

Type a value that uniquely describes the KMA. This value can be between 1 and 64 (inclusive) characters.

Site ID

Click the down-arrow and select the site to which the KMA belongs. This field is optional.

3. Open the Passphrase tab.



4. Complete the following parameters and choose the Save button.

Enter Passphrase

Type the passphrase for this user. The minimum value is 8 characters; the maximum value is 64 characters. The default value is 8.

Passphrase requirements:

- A passphrase must not contain the user’s KMA Name.
- A passphrase must contain three of the four character classes: uppercase, lowercase, numeric, or special characters.

  The following special characters are allowed:

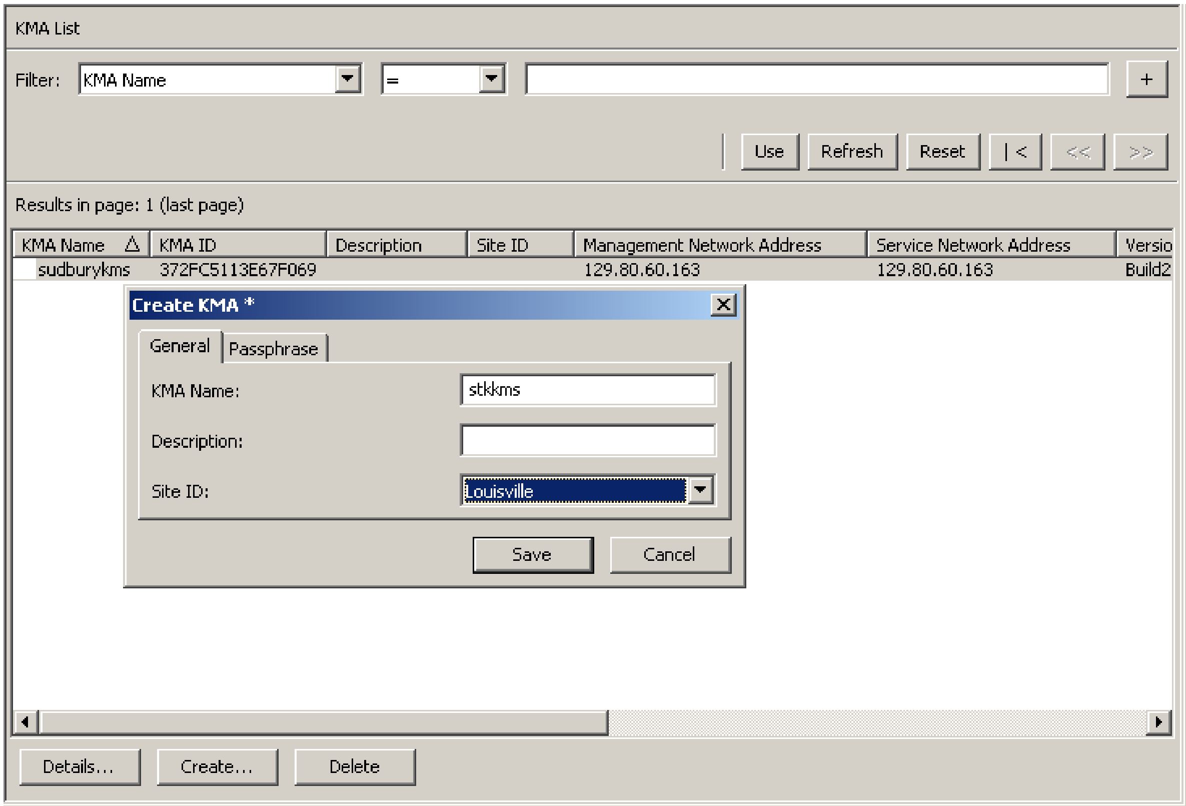
  ‘ ~ ! @ # $ % ^ & * ( ) - _ = + [ ] { } \ | ; : ’ ” < > , . / ?
- Control characters, including tabs and linefeeds, are not allowed.

Note – To modify the minimum length requirement for passphrases, see “Modifying the Security Parameters” on page 158.

Confirm Passphrase

Type the same value that you entered in the Enter Passphrase field.

5. The KMA record is added to the database and the entry is displayed in the KMA List screen.



Results in page: 1 (last page)

KMA Name	KMA ID	Description	Site ID	Management Network Address	Service Network Address	Versio
sudburykms	372FC5113E67F069			129.80.60.163	129.80.60.163	Build2

KMA Name: stkkms

Description:

Site ID: Louisville

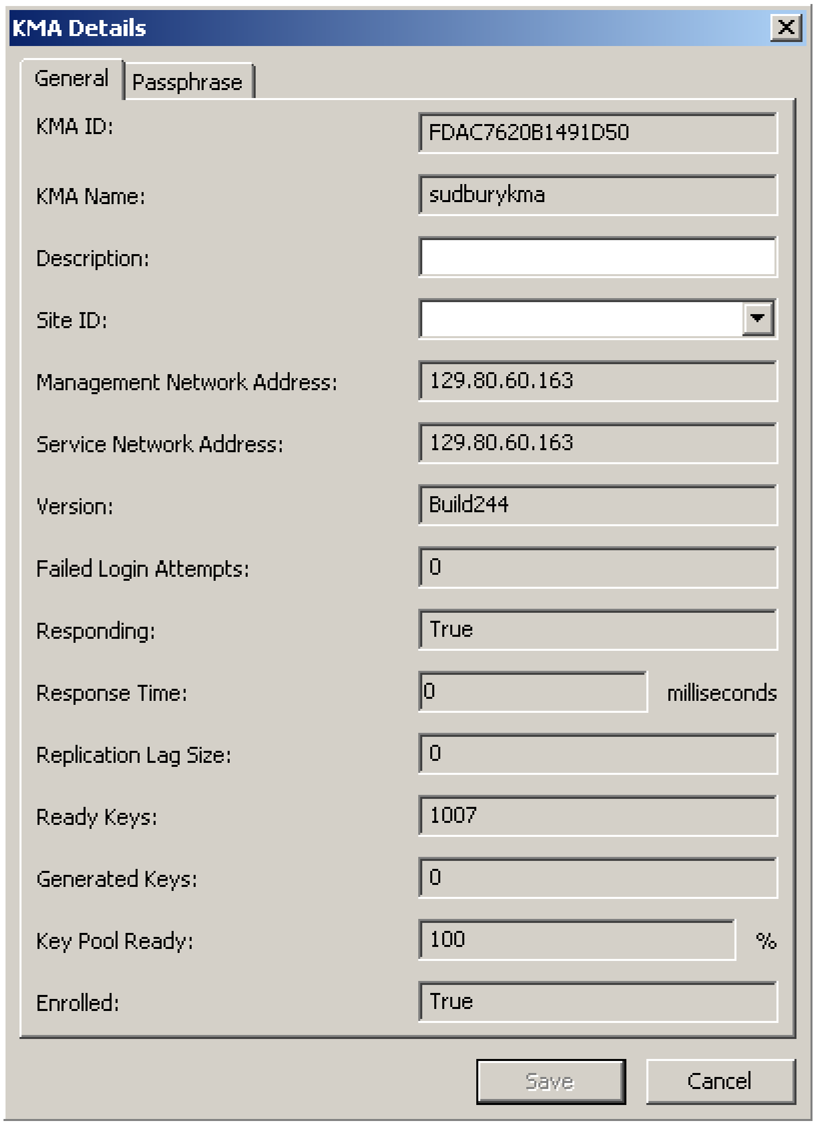
6. You must now run the QuickStart program on the KMA(s) you created so that they can join the Cluster. For procedures on joining a Cluster, refer to "Joining an Existing Cluster" on page 36.

Viewing/Modifying a KMA's Details

Note – If you are not a Security Officer, when you view a KMA's detailed information, all fields, including the Save button are disabled.

To modify a KMA's details:

1. From the KMAs List screen, double-click a KMA entry for which you want more detailed information or highlight a KMA entry and choose the Details button. The KMA Details screen is displayed.



KMA ID:	FDAC7620B1491D50
KMA Name:	sudburykma
Description:	
Site ID:	
Management Network Address:	129.80.60.163
Service Network Address:	129.80.60.163
Version:	Build244
Failed Login Attempts:	0
Responding:	True
Response Time:	0 milliseconds
Replication Lag Size:	0
Ready Keys:	1007
Generated Keys:	0
Key Pool Ready:	100 %
Enrolled:	True

2. On the General tab, change the following fields:

- Description
- Site ID.

3. Open the Passphrase tab and modify the following parameters:

- Passphrase
- Confirm Passphrase (retype the same passphrase).

4. When you are finished, choose the Save button. The KMA record in the database is modified.

Setting a KMA Passphrase

Note – You can change a KMA's passphrase, provided you are not connected to it.

When you are creating a new Cluster, a random passphrase is automatically assigned to the KMA that is used to create the new Cluster. If the KMA wants to retrieve an entity's certificate from another KMA in the Cluster because its certificate has expired, then you would have to use this function to set the passphrase to a known value.

To set a KMA's passphrase:

1. From the KMA List screen, double-click the KMA entry or highlight a KMA entry and choose the Details button. The KMA Details dialog box is displayed, with the General tab active.
2. Open the Passphrase tab and modify the following parameters:

- Passphrase
- Confirm Passphrase (retype the same passphrase).

3. Choose the Save button to save the changes. The database entry for the KMA is changed.
4. Using the Console, on the KMA where the passphrase has been changed, select the function to log the KMA into the cluster. The KMA is not able to communicate with the cluster until it is logged back in.

Deleting a KMA

Important – Before you delete a KMA, you should take it off-line using the Console "Shutdown KMA" function. If you fail to do this, the KMA will continue to function outside of the Cluster, and send "stale information" to Agents and users.

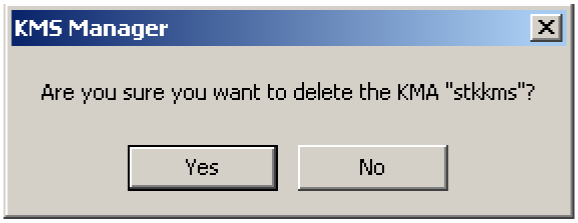
Normally, this command will only be used to delete a failed KMA from the cluster. However, it may also be used to remove a KMA that is being decommissioned. However, in that case, using the Console "Reset KMA" function with the zeroize option is a better choice. This function deletes the KMA from the cluster and wipes all information from the disk of the KMA that is being decommissioned.

If you want a deleted KMA to rejoin a Cluster, you must reset the KMA to the factory default and select option 2 from the QuickStart program.

This option gives the Security Officer the ability to delete a KMA that is no longer in service.

To delete a KMA:

1. From the KMAs List screen, highlight the KMA you want to delete and choose the Delete button. The following dialog box is displayed, prompting you to confirm that you want to delete the selected KMA.



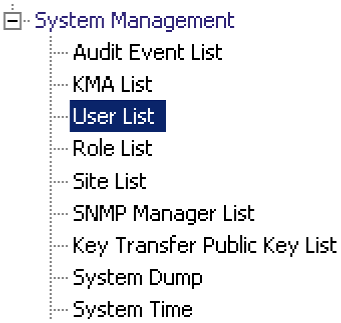
Are you sure you want to delete the KMA "stkkms"?

2. Choose the Yes button to delete the KMA. The currently selected KMA is deleted and you are returned to the KMAs List screen. The system also removes any entries that are associated with the KMA and not used by any other entity.

User List Menu

The User List menu option allows you to:

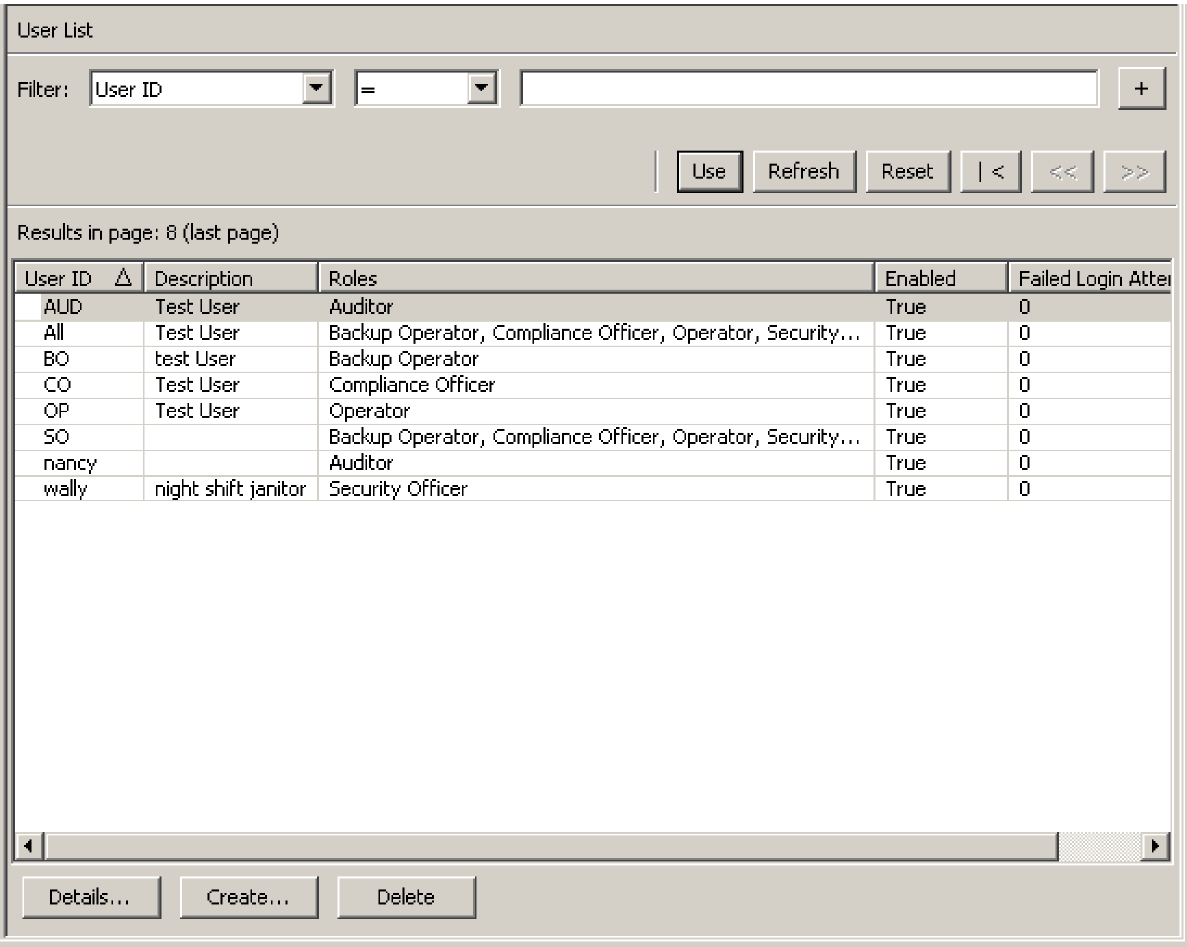
- View users
- Create a user
- Modify existing user information
- Delete an existing user



Viewing Users

To view users:

From the System Management menu, select **User List**. The User List screen is displayed.



Results in page: 8 (last page)

User ID	Description	Roles	Enabled	Failed Login Atte
AUD	Test User	Auditor	True	0
All	Test User	Backup Operator, Compliance Officer, Operator, Security...	True	0
BO	test User	Backup Operator	True	0
CO	Test User	Compliance Officer	True	0
OP	Test User	Operator	True	0
SO		Backup Operator, Compliance Officer, Operator, Security...	True	0
nancy		Auditor	True	0
wally	night shift janitor	Security Officer	True	0

You can also scroll through the database and filter the User list by any of the following keys:

- User ID
- Description
- Roles
- Enabled
- Failed Login Attempts.

The **Use** button applies the filter to the displayed list for the User.

The fields and their descriptions are given below:

Filter:

Displays the fields that you can use to filter the results of queries made to the KMA. Possible values are:

- User ID
- Description
- Enabled
- Failed Login Attempts

Filter Operator box:

Click the down-arrow and select the filter operation you want. Possible values are:

- Equals =
- Not equal <>
- Greater than >
- Less than <
- Greater than or equals >=
- Less than or equals <=
- Starts with ~
- Empty
- Not Empty

Filter Value 1 box:

Type a value in this field.

Use:

Click this button to apply the filter to the displayed list.

Refresh:

Click this button to refresh the list.

Reset:

Click this button to remove all filters and reset the displayed list to the first page.

|<

Click this button to go to the first page of the list.

<<

Click this button to go to the previous page.

>>

Click this button to go to the next page.

Results in Page:

Displays the number of records per page that were configured in the Query Page Size field in the Options dialog box.

User ID

Displays a unique identifier, commonly referred to as “User Name” that distinguishes each user in a Cluster.

Description

Describes the user.

Roles

Displays the list of security roles for a user. The roles allow the user to perform various operations.

Enabled

Indicates the status of the user. Possible values are **True** or **False**.

Failed Login Attempts

Indicates the number of failed login attempts.

If you want to create a user, choose the Create button. For more information, refer to “Creating a User” on page 102.

If you want to modify a user’s details, highlight the user and choose the Details button. For more information, refer to “Viewing/Modifying a User’s Details” on page 104.

If you want to delete a user, choose the Delete button. For more information, refer to “Deleting Users” on page 106.

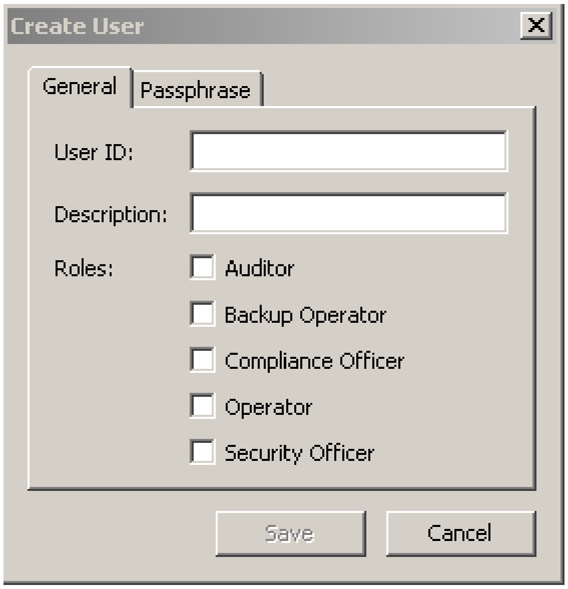
A Security Officer can set a user’s passphrase if the user’s passphrase and/or certificate has been compromised. For procedures on setting a user’s passphrase, refer to “Setting a User’s Passphrase” on page 105.

Users can also change their own passphrase. For procedures, refer to “Changing the Passphrase” on page 82.

Creating a User

To create a user:

1. From the User List screen, choose the Create button. The Create User dialog box is displayed, with the General tab open.



2. Complete the following parameters:

General Tab

User ID

Type a value that uniquely identifies the user. This value can be between 1 and 64 (inclusive) characters.

Description

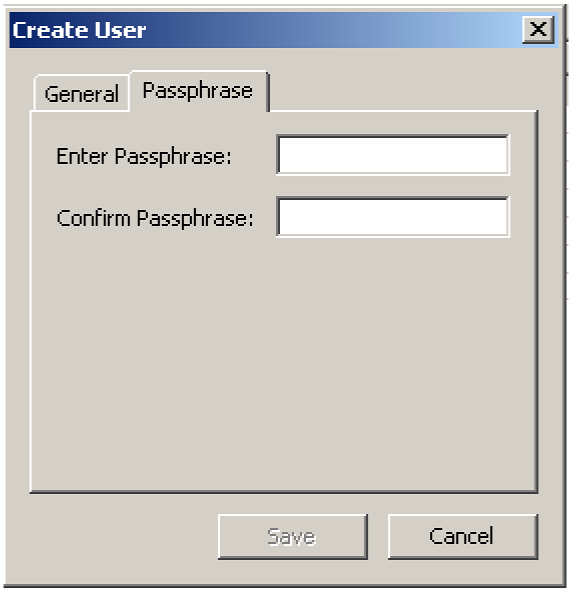
Type a value that describes the user. This value can be between 1 and 64 (inclusive) characters.

Roles

Select the check boxes beside the roles you want the user to perform.

Passphrase Tab

3. Open the Passphrase tab.



4. Complete the following parameters:

Passphrase

Type the passphrase for this user. The minimum value is 8 characters; the maximum value is 64 characters. The default value is 8.

Passphrase requirements:

- A passphrase must not contain the user’s User ID.
- A passphrase must contain three of the four character classes: uppercase, lowercase, numeric, or special characters.

  The following special characters are allowed:

  ‘ ~ ! @ # $ % ^ & * ( ) - _ = + [ ] { } \ | ; : ’ ” < > , . / ?
- Control characters, including tabs and linefeeds, are not allowed.

Note – To modify the minimum length requirement for passphrases, see “Modifying the Security Parameters” on page 158.

Confirm Passphrase

Type the same value that you entered in the Enter Passphrase field.

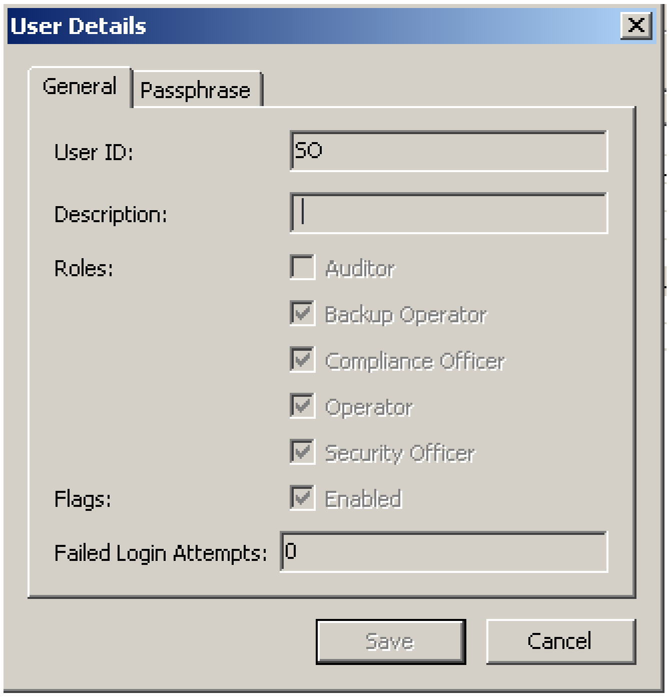
5. Choose the Save button. The user record is added to the database. The new user is displayed in the User List.

Viewing/Modifying a User's Details

Note – The currently logged-in Security Officers cannot modify their records.

To modify user information:

1. From the Users List screen, double-click a user for which you want more information or highlight a user record and choose the Details button. The User Details screen is displayed, where all fields, including the Save button are disabled.



User ID: SO

Description:

Roles: □ Auditor ☑ Backup Operator ☑ Compliance Officer ☑ Operator ☑ Security Officer

Flags: ☑ Enabled

Failed Login Attempts: 0

2. On the General tab, modify the following parameters:

- User ID
- Description
- Roles
- Flags - Enabled
- Failed Login Attempts.

The Failed Login Attempts field displays the number of times that a login attempt has failed.

3. Open the Passphrase tab and modify the following parameters:

- Passphrase
- Confirm Passphrase.

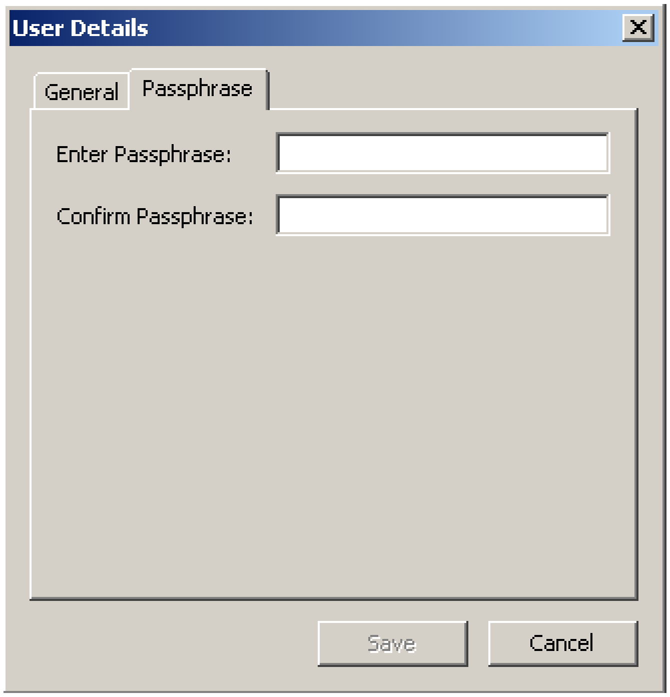
4. When you are finished, choose the Save button. The user record in the database is modified.

Setting a User's Passphrase

As the Security Officer, you can set a user's passphrase if you believe that the user's passphrase and/or certificate has been compromised. A new certificate is generated when the user uses the new passphrase to logon to the KMA.

To set a user's passphrase:

1. From the User List screen, double-click the user whose passphrase you want to select or highlight the user and choose the Details button.
2. The User Details screen is displayed. Open the Passphrase tab.



Enter Passphrase:

Confirm Passphrase:

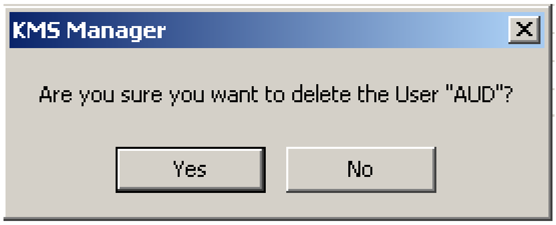
3. In the Enter Passphrase field, type the passphrase that was assigned by the Security Officer when the user account was created.
4. In the Confirm Passphrase field, type the same value you entered in Step 3. The new passphrase for the user record is saved. You are returned to the User List screen.

Deleting Users

Users cannot delete themselves.

To delete a user:

1. From the Users List screen, select the user you want to delete and choose the Delete button. The following dialog box is displayed, prompting you to confirm that you want to delete the selected user.



Are you sure you want to delete the User "AUD"?

2. Choose the Yes button to delete the user. The currently selected user is deleted and you are returned to the User List screen, where the deleted user is no longer in the User List.

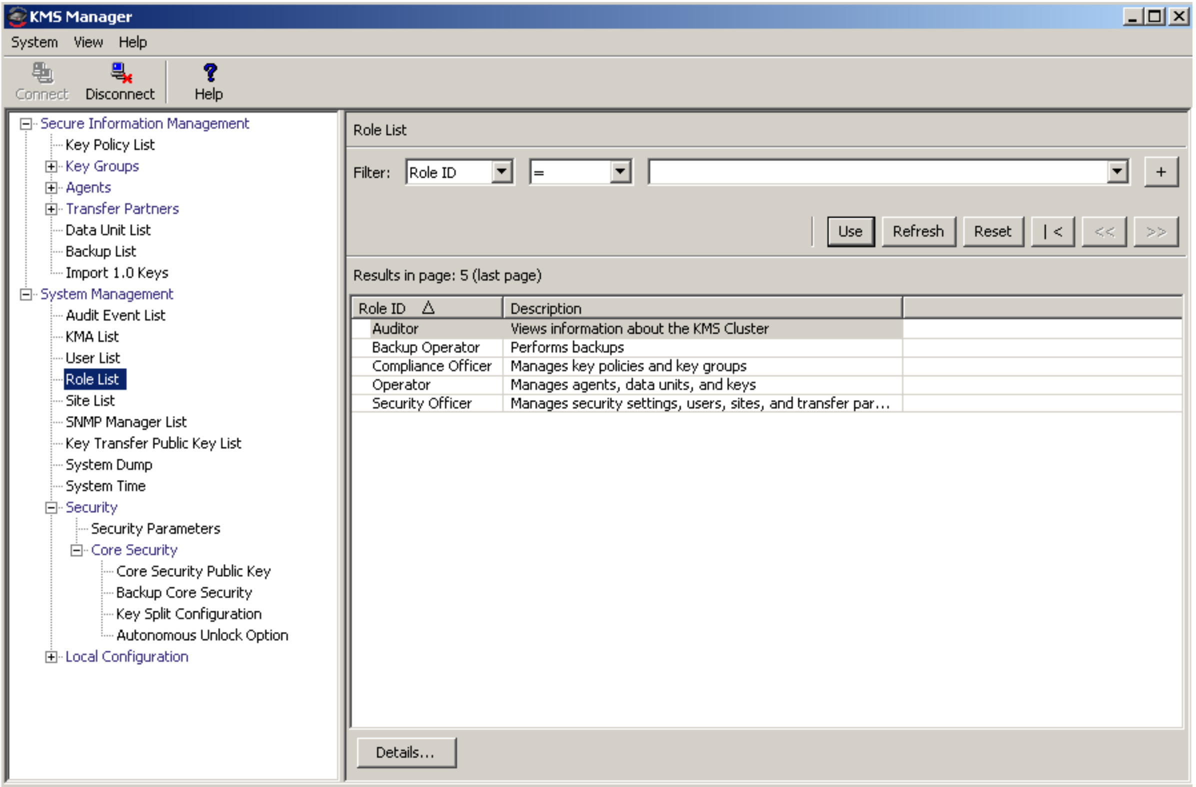
Role List Menu

The Role List menu option allows gives you the ability to view user roles. Roles are fixed logical groupings of various system operations that a user can perform. A user can have more than one role.

Viewing Roles

To view roles:

From the System Management menu, select **Role List**. The Role List screen is displayed.



Filter: Role ID =

Results in page: 5 (last page)

Role ID △	Description
Auditor	Views information about the KMS Cluster
Backup Operator	Performs backups
Compliance Officer	Manages key policies and key groups
Operator	Manages agents, data units, and keys
Security Officer	Manages security settings, users, sites, and transfer par...

You can also scroll through the database and filter the Roles list by either of the following keys:

- Role ID
- Description.

The **Use** button applies the filter to the displayed list.

The fields and their descriptions are given below:

Filter:

Displays the fields that you can use to filter the results of queries made to the KMA. Possible values are:

- Role ID
- Description

Filter Operator box:

Click the down-arrow and select the filter operation you want. Possible values are:

- Equals =
- Not equal <>
- Empty
- Not Empty

Filter Value 1 box:

Type a value in this field.

Refresh:

Click this button to refresh the list.

Reset:

Click this button to remove all filters and reset the displayed list to the first page.

|<

Click this button to go to the first page of the list.

<<

Click this button to go to the previous page.

>>

Click this button to go to the next page.

Results in Page:

Displays the number of records per page that were configured in the Query Page Size field in the Options dialog box.

Role ID

Displays the unique identifier that distinguishes each security role.

Description

Describes the role.

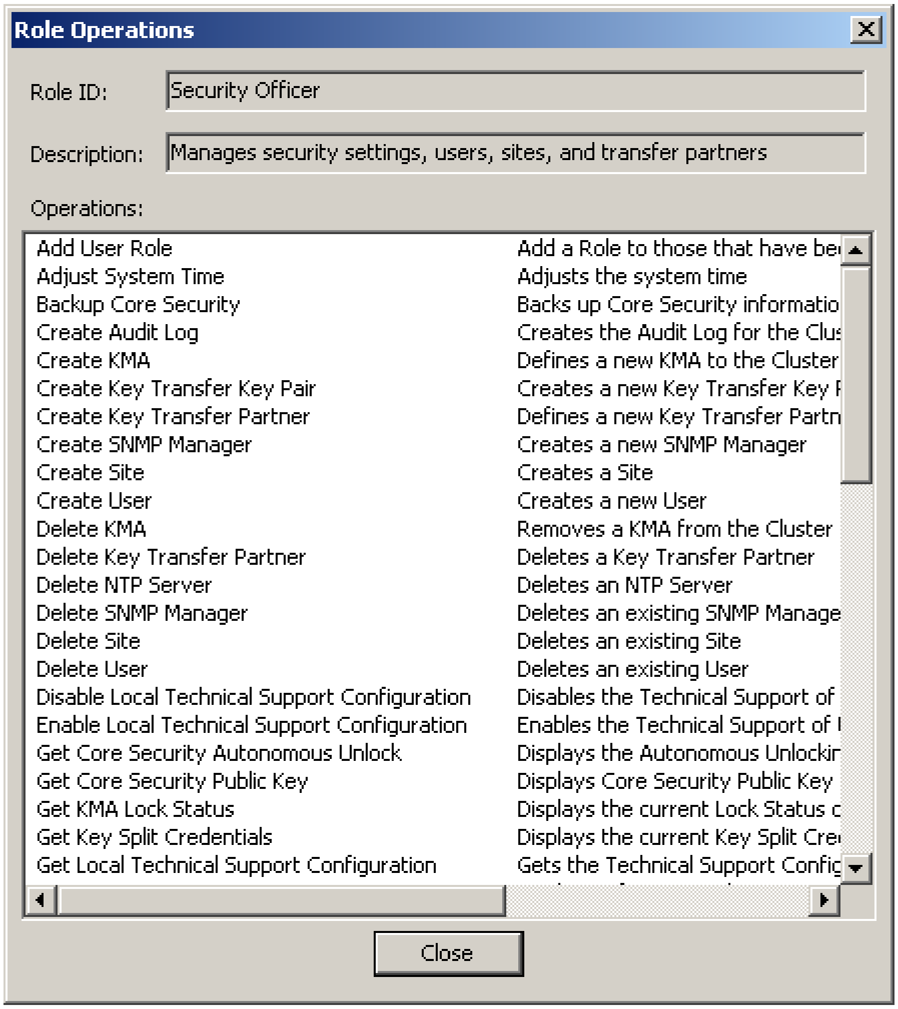
If you want more detailed information on a role, highlight a role entry and choose the Details button. For more information, refer to "Viewing Operations for a Role" on page 109.

Viewing Operations for a Role

The Role Operations dialog box allows the you to view a role and its permitted operations.

To view the operations for a specific role:

1. From the Role List screen, highlight a role and choose the Details button. The Role Operations dialog box is displayed, indicating the operations for the selected role.



Role ID: Security Officer

Description: Manages security settings, users, sites, and transfer partners

Operations:

Add User Role	Add a Role to those that have be
Adjust System Time	Adjusts the system time
Backup Core Security	Backs up Core Security informatio
Create Audit Log	Creates the Audit Log for the Clu
Create KMA	Defines a new KMA to the Cluster
Create Key Transfer Key Pair	Creates a new Key Transfer Key
Create Key Transfer Partner	Defines a new Key Transfer Partn
Create SNMP Manager	Creates a new SNMP Manager
Create Site	Creates a Site
Create User	Creates a new User
Delete KMA	Removes a KMA from the Cluster
Delete Key Transfer Partner	Deletes a Key Transfer Partner
Delete NTP Server	Deletes an NTP Server
Delete SNMP Manager	Deletes an existing SNMP Manage
Delete Site	Deletes an existing Site
Delete User	Deletes an existing User
Disable Local Technical Support Configuration	Disables the Technical Support of
Enable Local Technical Support Configuration	Enables the Technical Support of
Get Core Security Autonomous Unlock	Displays the Autonomous Unlocki
Get Core Security Public Key	Displays Core Security Public Key
Get KMA Lock Status	Displays the current Lock Status
Get Key Split Credentials	Displays the current Key Split Cre
Get Local Technical Support Configuration	Gets the Technical Support Confi

2. Choose the Close button to close this dialog box. You are returned to the Role List screen.

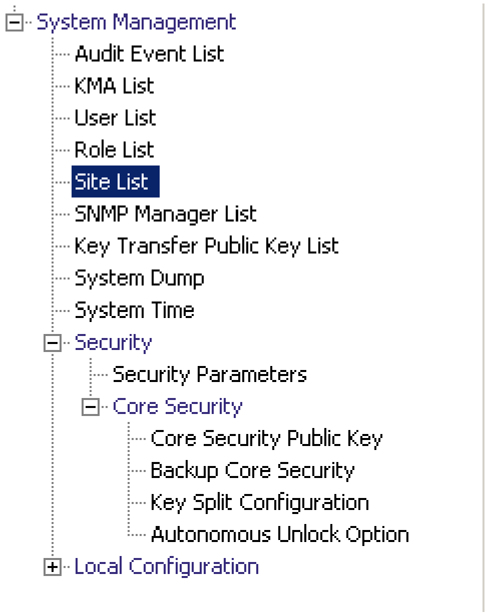
Site List Menu

A Site is a physical location with at least one KMA, to which several Agents (Hosts and KMS Cluster) connect. Sites allows Agents to respond to KMA failures or load balancing more effectively by connecting to another KMA in the local Site rather than a remote one

The Site List menu option gives you the ability to:

- View sites
- Create a site
- Modify an site’s information
- Delete a site.

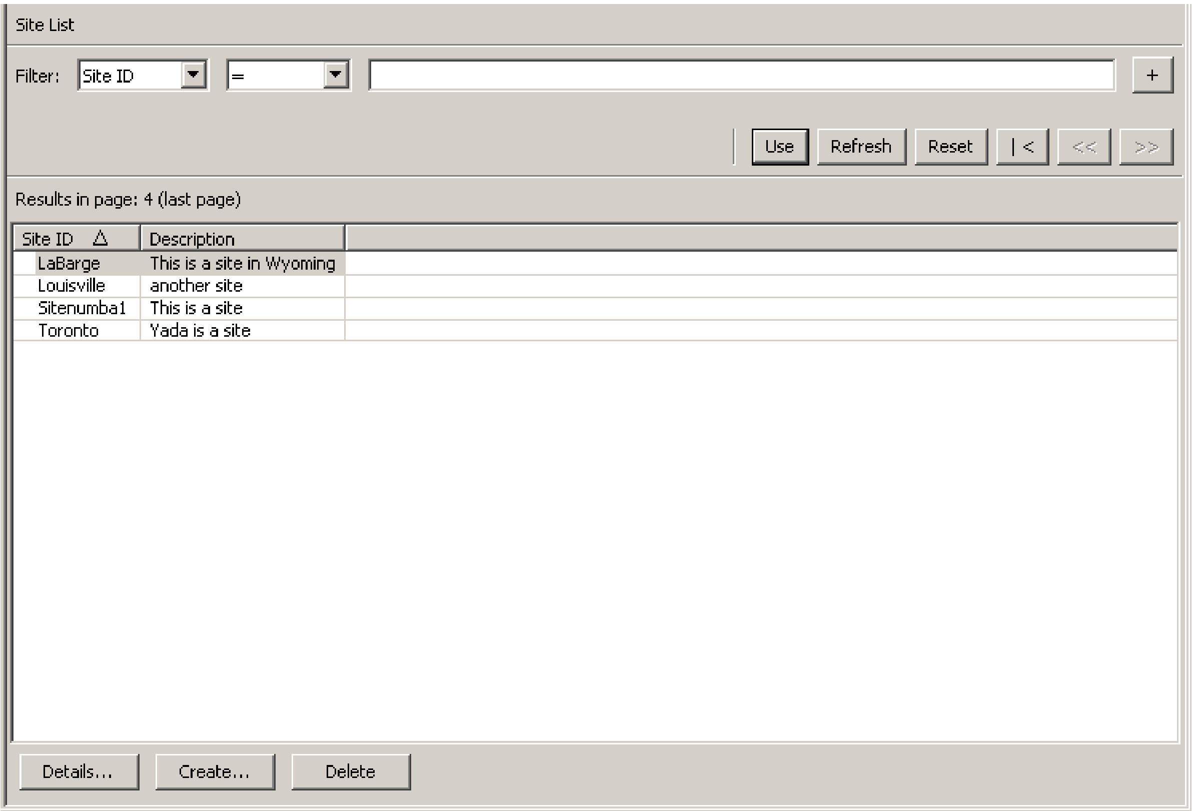
Note – An Operator can view sites only. A Security Officer can manage the sites.



Viewing Sites

To view sites:

From the System Management menu, select Site List. The Site List screen is displayed.



Results in page: 4 (last page)

Site ID △	Description
LaBarge	This is a site in Wyoming
Louisville	another site
Sitenumba1	This is a site
Toronto	Yada is a site

You can also scroll through the database and filter the Sites list by any of the following keys:

- Site ID
- Description.

The **Use** button applies the filter to the displayed list for the Site.

The fields and their descriptions are given below:

Filter:

Displays the fields that you can use to filter the results of queries made to the KMA. Possible values are:

- Site ID
- Description

Filter Operator box:

Click the down-arrow and select the filter operation you want. Possible values are:

- Equals =
- Not equal <>
- Greater than >
- Less than <
- Greater than or equals >=
- Less than or equals <=
- Starts with ~

Filter Value 1 box:

Type a value in this field.

Use:

Click this button to apply the filter to the displayed list.

Refresh:

Click this button to refresh the list.

Reset:

Click this button to remove all filters and reset the displayed list to the first page.

|<

Click this button to go to the first page of the list.

<<

Click this button to go to the previous page.

>>

Click this button to go to the next page.

Results in Page:

Displays the number of records per page that were configured in the Query Page Size field in the Options dialog box.

Site ID

Uniquely identifies the site.

Description

Describes the site.

Choose the Create button to create a Site. For more information, refer to "Creating a Site" on page 114.

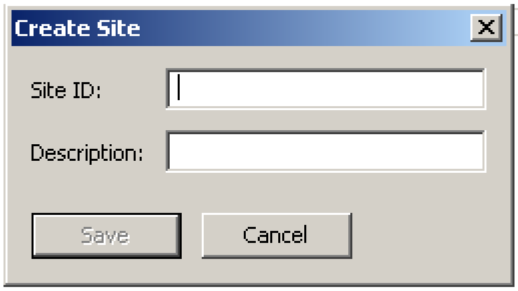
If you want to view / modify a Site's detailed information, highlight the Site and choose the Details button. For more information, refer to "Viewing/Modifying a Site's Details" on page 116.

Choose the Delete button to delete a selected Site. For more information, refer to "Deleting a Site" on page 117.

Creating a Site

To create a site:

1. From the Site List screen, choose the Create button. The Create Site dialog box is displayed.



2. Complete the following parameters:

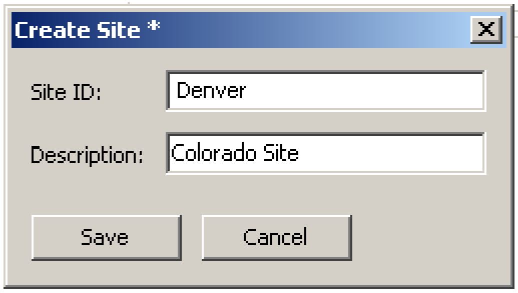
Site ID

Type a value that uniquely identifies the site. This value can be between 1 and 64 (inclusive) characters.

Description

Type a value that uniquely describes the site. This value can be between 1 and 64 (inclusive) characters.

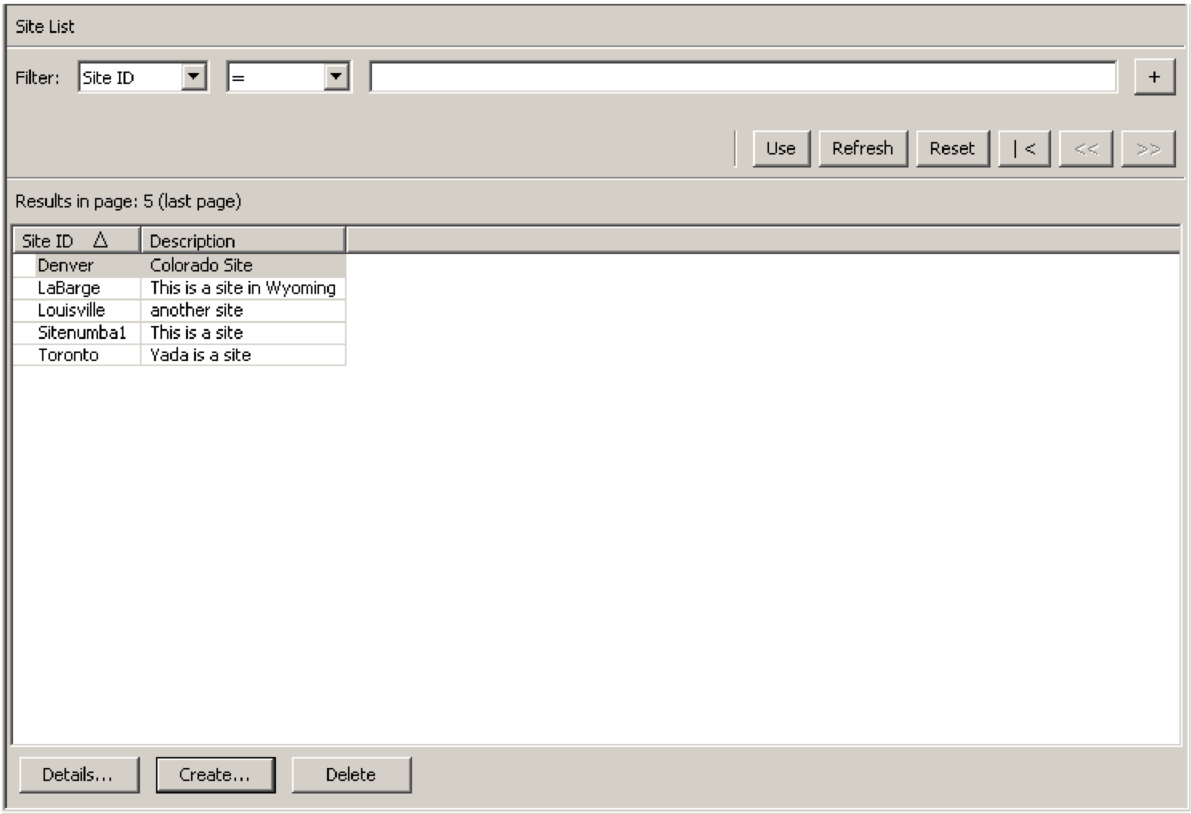
An example of a completed dialog box is shown below.


Create Site *

Site ID: Denver

Description: Colorado Site

3. Choose the Save button. The new Site is saved and stored in the database and is displayed in the Site List.



Results in page: 5 (last page)

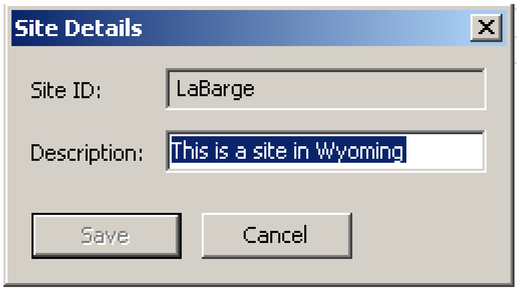
Site ID △	Description
Denver	Colorado Site
LaBarge	This is a site in Wyoming
Louisville	another site
Sitenumba1	This is a site
Toronto	Yada is a site

Viewing/Modifying a Site's Details

Note – If you are not a Security Officer, when you view a site's detailed information, all fields, including the Save button are disabled.

To modify a Site's details:

1. From the Site List screen, choose the Details button. The Site Details dialog box is displayed.



Site ID: LaBarge

Description: This is a site in Wyoming

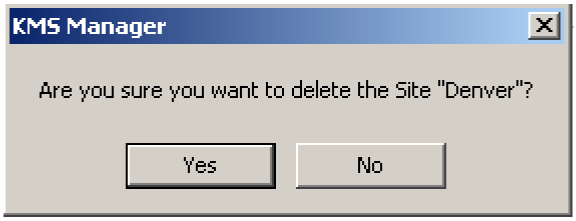
2. Change the Description field and choose the Save button. The Site details are modified and stored in the database.

Deleting a Site

Note – If the site is in use, that is, agents or KMAs are specified to be at the site, they must first be deleted or changed to a different site before you can delete it.

To delete a site:

1. From the Site List screen, highlight the Site you want to delete and choose the Delete button. The following dialog box is displayed, prompting you to confirm your actions.



KMS Manager

Are you sure you want to delete the Site "Denver"?

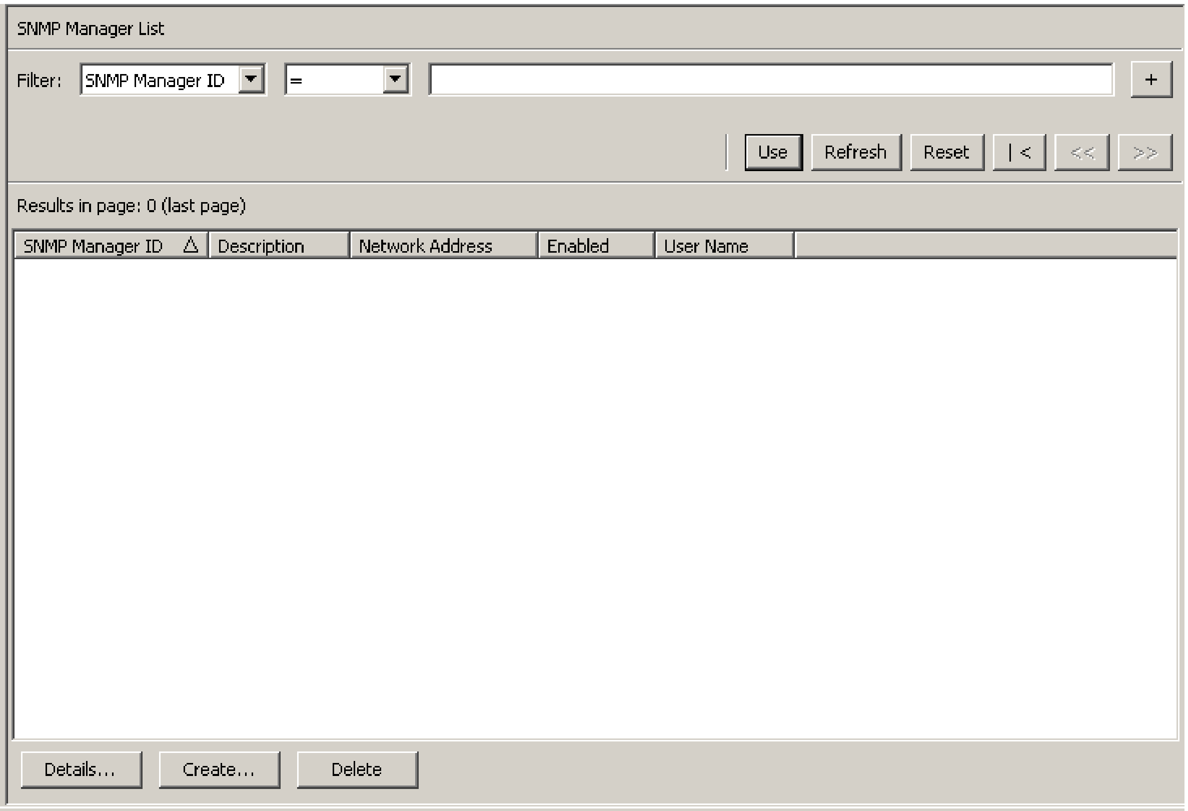
2. Choose the Yes button to delete the Site. The currently selected Site is deleted and you are returned to the Site List screen.

SNMP Manager List Menu

Viewing a KMA's SNMP Managers

To view the SNMP Managers:

From the System Management menu, select SNMP Manager List. The SNMP Manager List screen is displayed.



SNMP Manager List

Filter: SNMP Manager ID =

Results in page: 0 (last page)

SNMP Manager ID △	Description	Network Address	Enabled	User Name

You can also scroll through the database and filter the SNMP Manager List by any of the following keys:

- SNMP Manager ID
- Description
- Network Address
- Enabled
- User Name.

The **Use** button applies the filter to the displayed list for the SNMP Manager.

The fields and their descriptions are given below:

Filter:

Displays the fields that you can use to filter the results of queries made to the KMA. Possible values are:

- SNMP Manager ID
- Description
- Network Address
- Enabled
- User Name.

Filter Operator box:

Click the down-arrow and select the filter operation you want. Possible values are:

- Equals =
- Not equal <>
- Greater than >
- Less than <
- Greater than or equals >=
- Less than or equals <=
- Starts with ~
- Empty
- Not empty

Filter Value 1 box:

Type a value in this field.

Use:

Click this button to apply the filter to the displayed list.

Refresh:

Click this button to refresh the list.

Reset:

Click this button to remove all filters and reset the displayed list to the first page.

|‹

Click this button to go to the first page of the list.

«

Click this button to go to the previous page.

»

Click this button to go to the next page.

Results in Page:

Displays the number of records per page that were configured in the Query Page Size field in the Options dialog box.

SNMP Manager ID

Displays the user-defined unique identifier for the SNMP Manager.

Description

Displays a description for the SNMP Manager. This field is optional.

Network Address

Displays the network address that will be used when sending an SNMP trap.

Enabled

Indicates whether this SNMP Manager is enabled or not.

User Name

Displays the user name that was used to establish a secure, trusted SNMPv3 connection to this SNMP Manager.

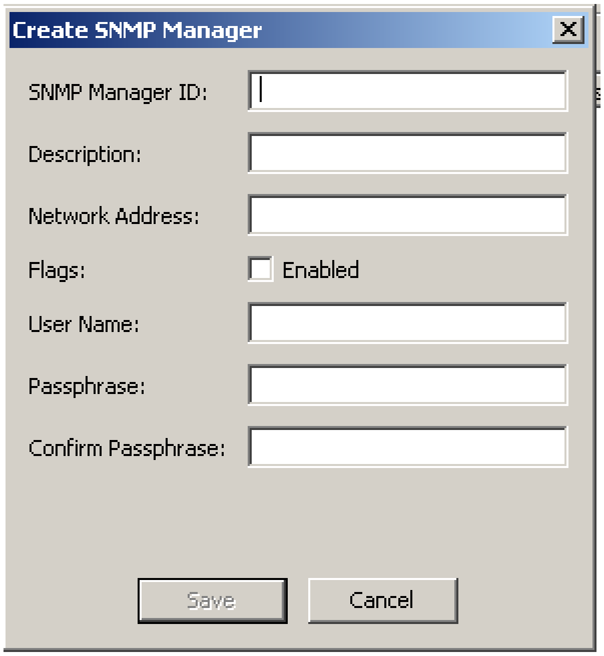
Choose the Create button to create a new SNMP Manager. For more information, refer to "Creating a New SNMP Manager"below.

If you want to view/modify a SNMP Manager detailed information, highlight the entry and choose the Details button. For more information, refer to "Viewing/Modifying an SNMP Manager's Details" on page 123.

Choose the Delete button to delete the selected SNMP Manager. For more information, refer to "Deleting an SNMP Manager" on page 124.

Creating a New SNMP Manager

1. From the SNMP Managers List screen, choose the Create button. The Create SNMP Manager dialog box is displayed.



2. Complete the following parameters:

SNMP Manager ID

Type a value that uniquely identifies the SNMP Manager. This value can be between 1 and 64 (inclusive) characters.

Description

Type a value that describes the SNMP Manager. This value can be between 1 and 64 (inclusive) characters.

Network Address

Type the SNMP Manager's network address.

Flags - Enabled

Select this check box to indicate whether SNMP is enabled or not.

User Name

Type the user name that will be used to authenticate the SNMP Manager.

Passphrase

Type the passphrase that will be used to authenticate the SNMP Manager.

Confirm Passphrase

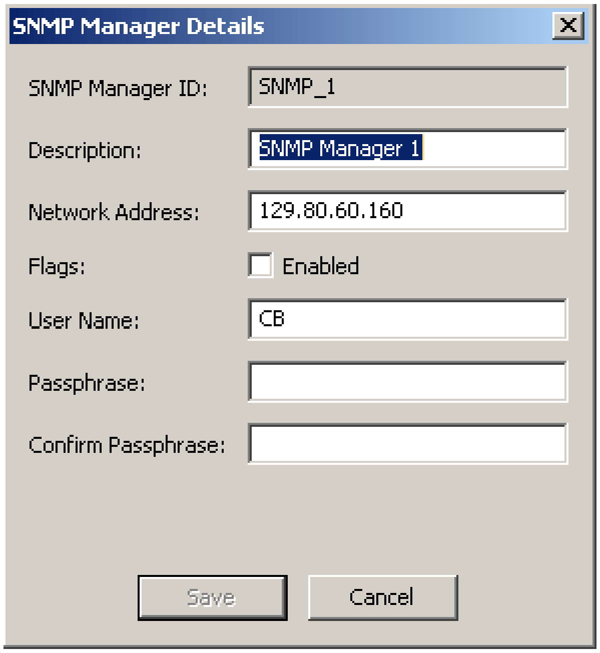
Type the same passphrase that was entered in the Passphrase field.

3. When you are finished, choose the Save button to save the information. The new SNMP Manager entry and its associated profile is stored in the database.

Viewing/Modifying an SNMP Manager's Details

To view/modify an SNMP Manager's details:

1. From the SNMP Managers List screen, double-click an SNMP Manager entry for which you want more information and choose the Details button. The SNMP Manager Details dialog box is displayed.



SNMP Manager ID: SNMP_1

Description: SNMP Manager 1

Network Address: 129.80.60.160

Flags: □ Enabled

User Name: CB

Passphrase:

Confirm Passphrase:

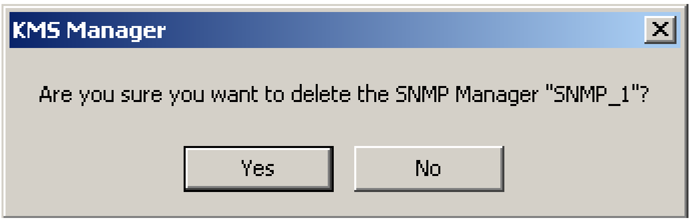
2. Change the parameters, as required.
3. When you are finished, choose the Save button to save the changes.

Note – Every time you modify a SNMP Manager's details, you have to re-specify the passphrase.

Deleting an SNMP Manager

To delete an SNMP Manager:

1. From the SNMP Managers List screen, highlight the SNMP Manager you want to delete and choose the Delete button. The SNMP Manager Confirm Delete dialog box is displayed.



Are you sure you want to delete the SNMP Manager "SNMP_1"?

2. Choose the Yes button to delete the SNMP Manager. The currently selected SNMP Manager is deleted and you are returned to the SNMP Managers List screen.

Key Transfer

Overview

Key Transfer, also called Key Sharing, allows keys and associated data units to be securely exchanged between Partners and is required to exchange encrypted media. This process requires each party in the transfer establish a public/private key pair and then provide the public key to the other party.

Each party enters the other party’s public key into their own KMS cluster. Once this initial configuration is complete, the sending party uses Export Keys to generate a transfer file, which is sent from the sending party to the receiving party. The receiving party then uses Import Keys to import the keys and their associated data units into their KMS Cluster.

The transfer file is signed using the sending party's private key and encrypted using the receiving party's public key. This allows only the receiving party to decrypt the transfer file using their own private key. The receiving party can verify the file was in fact produced by the expected sender by using the sender's public key.

Key Transfer Partners Feature

The Key Transfer Partners feature allows keys to be moved from one KMS Cluster to another. Typically, this feature can be used to exchange tapes between companies or within a company if multiple clusters are configured to deal with large numbers of sites.

The Key Transfer process involves these steps:

- Each KMS Cluster configures the other Cluster as a Transfer Partner. This is usually done once.
- The user exports keys from one KMS Cluster and imports them into the other. This step can be done many times.

Key Transfer Process

Within the KMS, you must perform a number of tasks in a specific order. Since these tasks involve more than one user role, the actual procedures reside in different chapters in this document.

Configuring Key Transfer Partners

To move keys, you must configure a Key Transfer Partner for both KMS Clusters participating in key movement.

In the following procedure, "C1" refers to the first KMS Cluster, "C2" to the second.

C1 Administrator (Security Officer role):

1. Acquire the Public Key information for C1 (your cluster). To do this, go to the Key Transfer Public Key List Menu. See "Viewing the Key Transfer Public Key List" on page 141 and "Viewing the Key Transfer Public Key Details" on page 144.
2. Cut and paste the Public Key ID and Public Key into an e-mail or other agreed-upon form of communication. Send this information to the C2 administrator.

Note – The exact communication method should be sufficiently secure that when C2 receives the information, it can be confident it actually came from C1. There is a mechanism, the fingerprint, to prevent modification of this information in transit.

C2 Administrator (Security Officer role):

3. C2 Administrator: Enter the Public Key information from C1 into the KMS Cluster by accessing the Transfer Partner List menu. See "Transfer Partner List Menu" on page 130.
4. Click the Create... button. Fill in a name for the Transfer Partner, a description, and contact information. Determine what you want to do with this Partner. See "Creating a Transfer Partner" on page 134.
5. Select the Public Keys tab. Fill in the Public Key ID and Public Key from the information supplied by C1.

   As the Public Key is entered, the system will compute the fingerprint. The C1 and C2 administrators should be communicating with each other using a different mechanism than was used for the transfer of the key itself.

   Both administrators should look at their KMS and verify the fingerprint matches. A mismatch indicates the key has been damaged or modified during the transfer.
6. If the fingerprint is correct, click Save. The system will prompt for a quorum. This is because the key export operations that are enabled by this step could be used to extract valid keys from a KMS Cluster.   C1 is now configured as a Transfer Partner in the C2 KMS Cluster.

C2 Administrator (Security Officer role):

7. Repeat Step 1 and Step 2, this time for the C2 KMS Cluster.

C1 Administrator (Security Officer role):

8. Repeat Step 3 through Step 6 to add C2’s Public Key to C1.

C1 Administistator (Compliance Officer Role):

9. C1 must configure Key Groups that can be sent to C2. See “Viewing Key Group Assignments” on page 210.

C2 Administrator (Compliance Officer Role):

10. C2 must configure Key Groups that can receive keys from C1. See “Viewing Key Group Assignments” on page 210.

11. Select the desired Transfer Partner.

12. Select one or more disallowed Key Groups, and click the Move to < button to add them to the Key Group list. See “Adding a Key Group to a Transfer Partner” on page 211.

Exporting/Importing Keys

The next procedure is used to export keys from one KMS cluster and import them into another. This can be done many times.

In the following procedure, "C1" refers to the first KMS Cluster, "C2" to the second. These instructions are written to allow C2 to export keys that are then imported into C1.

C2 Administrator (Operator Role):

1. To exchange keys, go to the Data Unit List screen. See "Viewing Data Units" on page 243.
2. Select one or more Data Units (tapes) to be sent from C2 to C1. The External Tag is the barcode on the tapes.
3. Click the Export Keys button to display the dialog box.
4. Select the destination Transfer Partner, select the Export Keys file name if necessary, and click Start. The Transfer File will be created.

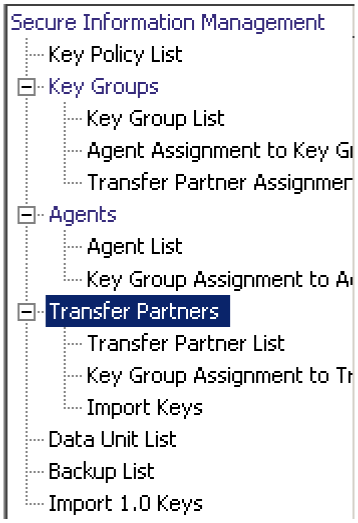
   Only the Keys belonging to the Key Groups that are allowed to be exported to C1 are exported.
5. Send the Transfer File to the C1 administrator by email or another agreed-upon form of communication or mechanism to move files.

C1 Administrator (Operator Role):

6. Select the Import Keys screen. See "Import Keys Menu" on page 240.
7. Supply the Destination Key Group the keys are to be imported to, the Sending Transfer Partner (C2, in this case) that exported these keys, and the Key Transfer file name. The selected key group must be a key group that is configured to receive keys from C2.
8. Click Start.

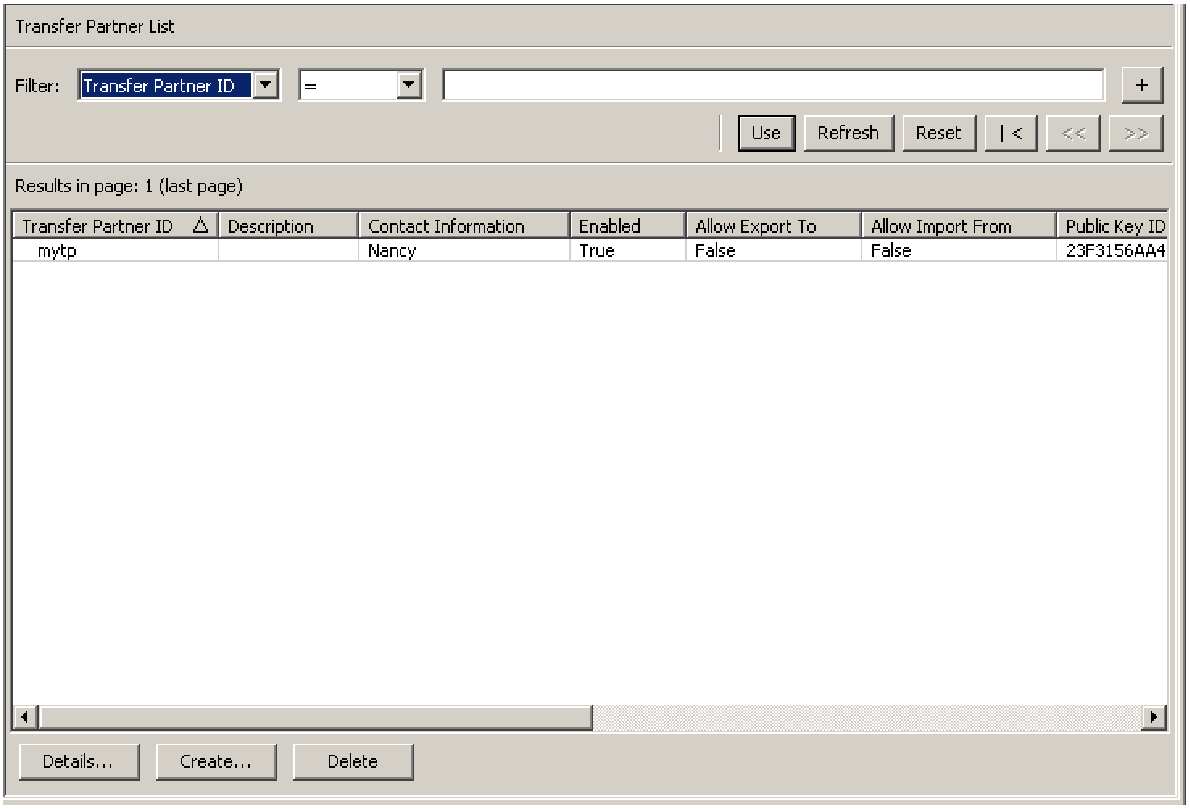
Transfer Partners Menu

The Key Transfer Partners feature allows keys to be moved from one KMS Cluster to another.



Transfer Partner List Menu

From the Secure Information Management menu, select **Transfer Partner List**.



Transfer Partner List

Filter: Transfer Partner ID =

Results in page: 1 (last page)

Transfer Partner ID	Description	Contact Information	Enabled	Allow Export To	Allow Import From	Public Key ID
mytp		Nancy	True	False	False	23F3156AA4

You can also scroll through the database and filter the Transfer Partner list by any of the following keys:

- Transfer Partner ID
- Description
- Contact Information
- Enabled
- Allow Export To
- Allow Import From

The **Use** button applies the filter to the displayed list for the Transfer Partner.

The fields and their descriptions are given below:

Filter:

Select filter options to filter the displayed list of Transfer Partners. Only Transfer Partners that satisfy all filters will be displayed.

Filter Attribute combo box:

Click the down-arrow and select an attribute to filter by. Possible values are:

- Transfer Partner ID
- Description
- Contact Information
- Enabled
- Allow Export To
- Allow Import From

Filter Operator combo box:

Click the down-arrow and select the filter operation to apply to the selected attribute. This filter option is not displayed for all filter attributes. Possible values are:

- Equals =
- Not equal <>
- Greater than >
- Less than <
- Greater than or equals >=
- Less than or equals <=
- Starts with ~
- Empty
- Not empty

Filter Value text box:

Type a value to filter the selected attribute by. This filter option is not displayed for all filter attributes.

Filter Value combo box:

Click the down-arrow and select a value to filter the selected attribute by. This filter option is not displayed for all filter attributes.

+ Click this button to add additional filters.

– Click this button to remove a filter. This button is only displayed if there is more than one filter shown.

Use:

Click this button to apply the selected filters to the displayed list and go to the first page.

Refresh:

Click this button to refresh the displayed list. This does not apply filters selected since the last Use or Reset, and does not change the page of the list.

Reset:

Click this button to remove all filters and reset the displayed list to the first page.

|<

Click this button to go to the first page of the list.

<<

Click this button to go to the previous page.

>>

Click this button to go to the next page.

Results in Page:

Displays the number of items that can be displayed on the current page. Appends "(last page)" to the number of items if you are at the end of the list. The maximum number of items displayed on a page is defined by the Query Page Size value on the Options dialog.

Transfer Partner ID:

Displays the unique identifier that distinguishes each Transfer Partner. This value can be between 1 and 64 (inclusive) characters. Click this Column Name to sort by this attribute.

Description:

Describes the Transfer Partner. This value can be between 1 and 64 (inclusive) characters. Click this Column Name to sort by this attribute.

Contact Information:

Displays contact information about the Transfer Partner. Click this Column Name to sort by this attribute.

Enabled:

Indicates whether the Transfer Partner is allowed to share keys. Possible values are: True or False. If this field is False, the Transfer Partner cannot share keys. Click this Column Name to sort by this attribute.

Allow Export To:

Indicates whether the Transfer Partner is allowed to export keys. Possible values are: True or False. If this field is False, the Transfer Partner cannot export keys. Click this Column Name to sort by this attribute.

Allow Import From:

Indicates whether keys can be imported from this Transfer Partner. Possible values are: True or False. If this field is False, keys cannot be imported from this Transfer Partner. Click this Column Name to sort by this attribute.

Public Key ID

Displays the unique identifier that distinguishes each Public Key. This value can be between 1 and 64 (inclusive) characters. Click this Column Name to sort by this attribute.

Public Key Fingerprint

Shows the fingerprint, or hash value, of the Public Key.

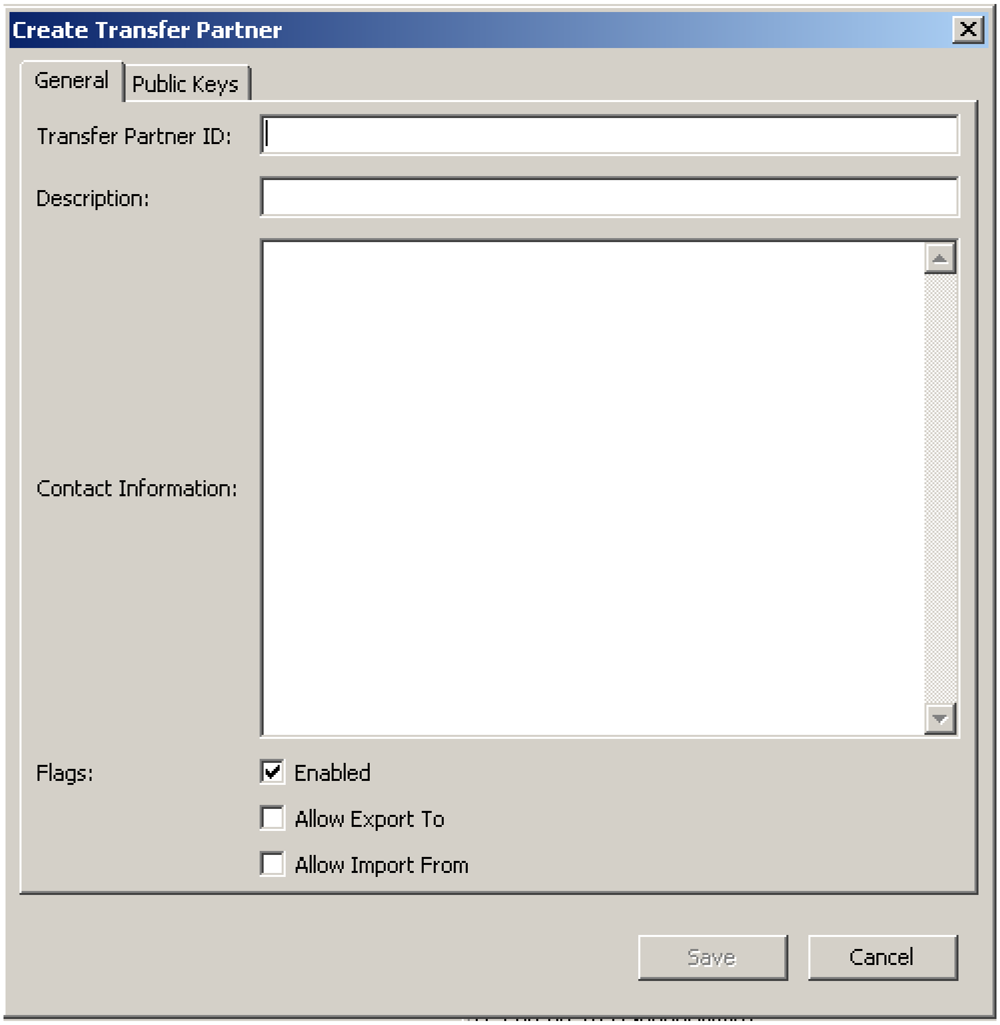
Entry Date

Displays the date the Public Key was entered into the KMS Cluster.

Creating a Transfer Partner

To create a transfer partner:

1. From the Transfer Partner List screen, choose the Create button. The Create Transfer Partner dialog box is displayed, with the General tab active.



Transfer Partner ID:

Description:

Contact Information:

Flags: ☑ Enabled

□ Allow Export To

□ Allow Import From

2. Complete the following parameters:

General Tab

Transfer Partner ID

Uniquely identifies the Transfer Partner.

Description

Type a value that uniquely describes the Transfer Partner. This value can be between 1 and 64 (inclusive) characters. This field can be left blank.

Contact Information

Type a value that identifies contact information about the Transfer Partner. This field can be left blank.

Flags - Enabled

Check this box to allow this Transfer Partner to share keys. If the field is not selected, the Transfer Partner cannot share keys.

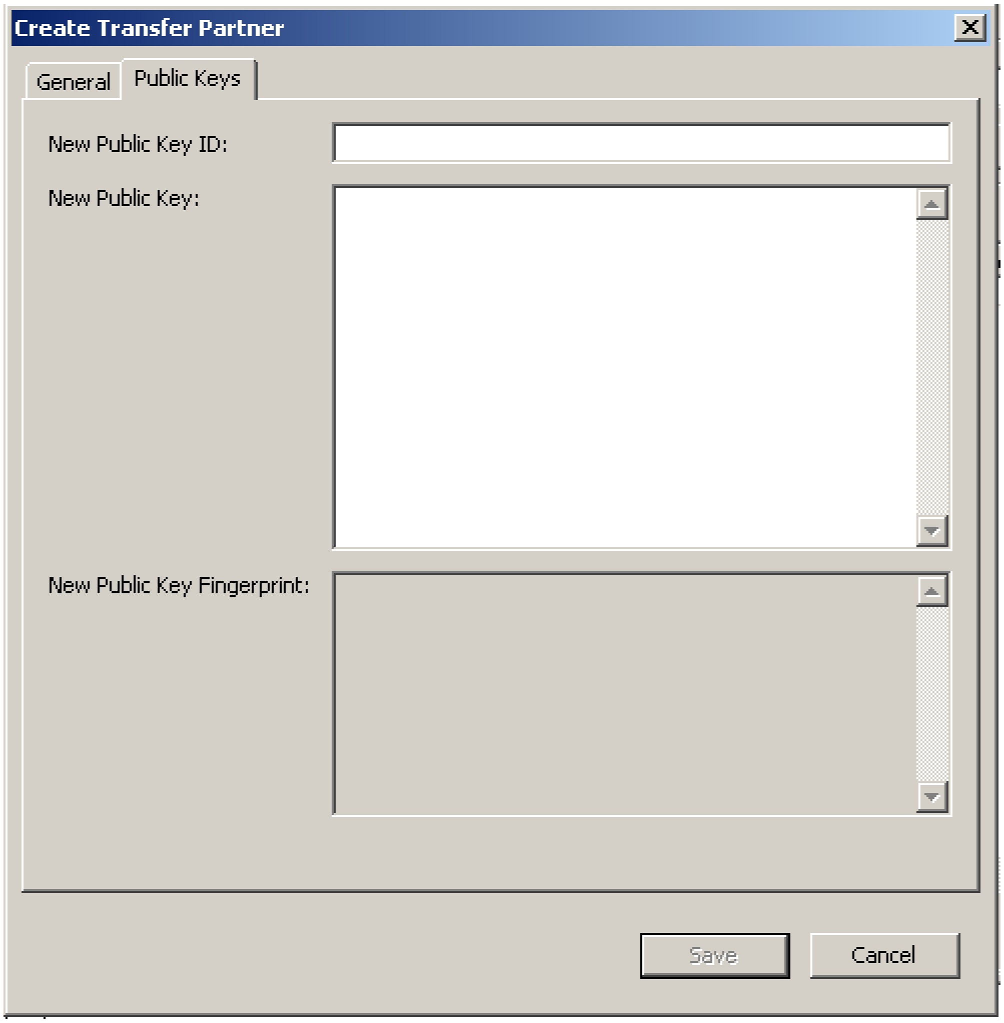
Allow Export To

Check this box to allow keys to be exported to the Transfer Partner. If this field is not selected, the Transfer Partner will not be available for the export keys operation.

Allow Import From

Check this box to indicate whether keys can be imported from this Transfer Partner. If this field is not selected, keys cannot be imported from this Transfer Partner.

3. Open the Public Keys tab.



Create Transfer Partner

New Public Key ID:

New Public Key:

New Public Key Fingerprint:

Public Keys Tab

New Public Key ID

Enter the Public Key ID provided to you by the Transfer Partner.

New Public Key

Enter the Public Key provided to you by the Transfer Partner.

New Public Key Fingerprint

This read-only field shows the fingerprint, or hash value, of the new Public Key. Verify this fingerprint with the Partner to ensure the Public Key has not been tampered with, accidentally or deliberately, during transmission.

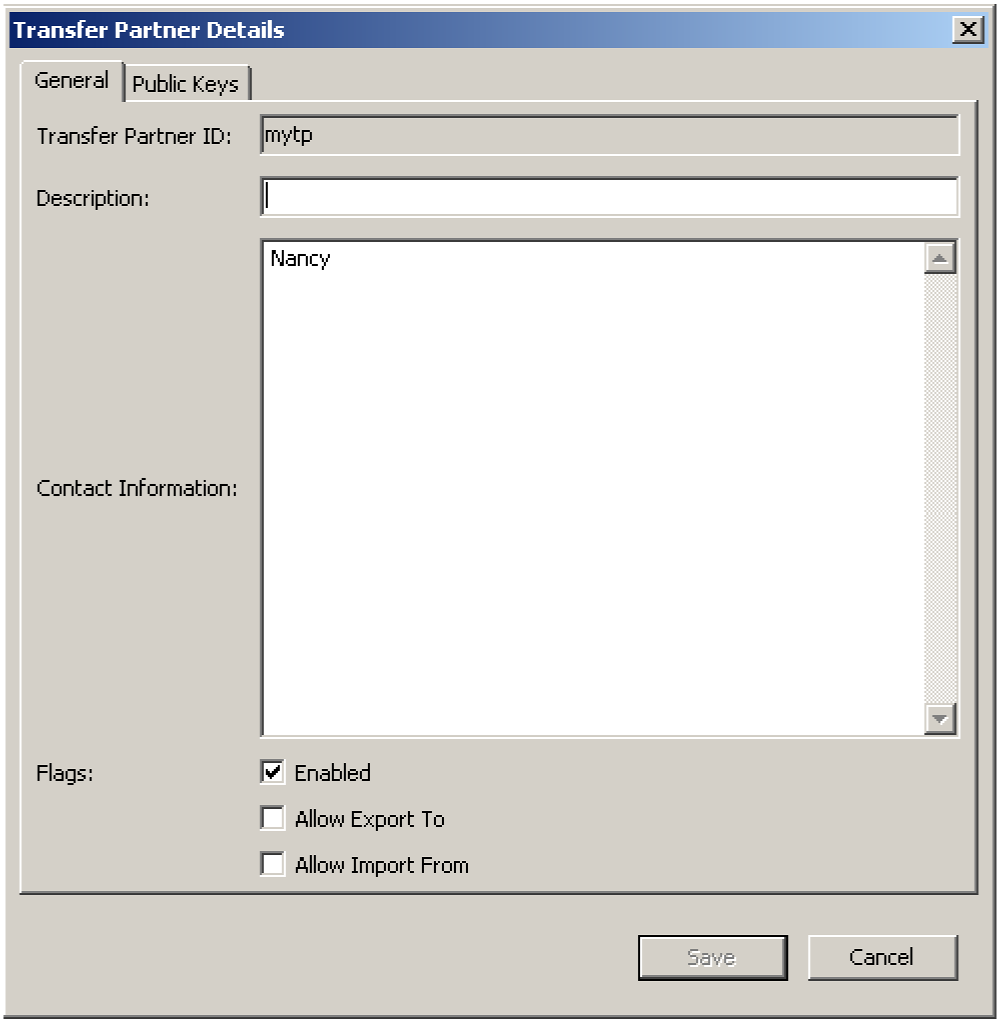
4. When you are finished, choose the Save button.

Viewing/Modifying Transfer Partner Details

The Transfer Partner Details dialog box allows you to view detailed information about a specific Transfer Partner.

To view these details:

1. From the Transfer Partner List screen, highlight a Transfer Partner ID and choose the Details button. The Transfer Partner Details dialog box is displayed.



Transfer Partner ID: mytp

Description:

Contact Information: Nancy

Flags: ☑ Enabled

□ Allow Export To

□ Allow Import From

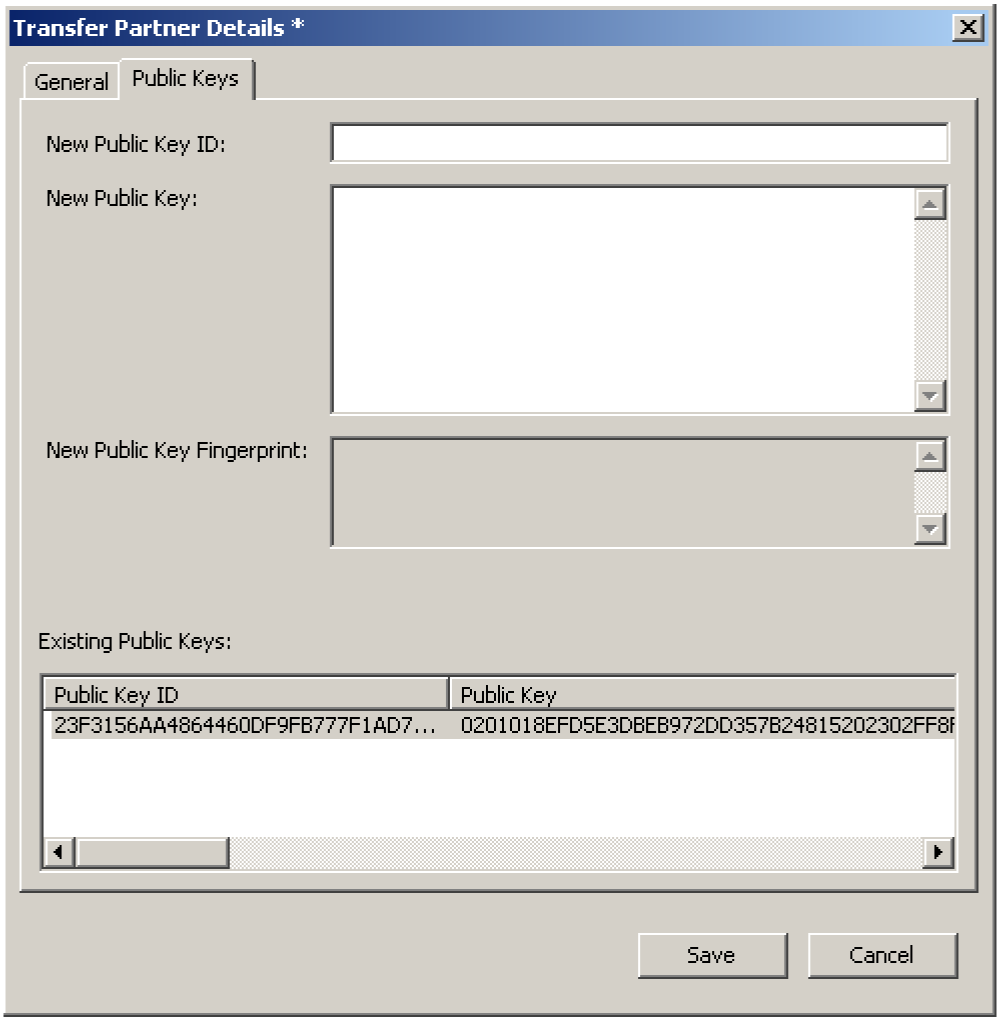
General Tab

2. On the General tab, you can change the following fields:

- Description
- Contact Information
- Flags Enabled
- AllowExport To
- Allow Import From

The Transfer Partner ID field is read-only.

3. When you are finished, choose the Save button. The Transfer Partners record in the database is modified.
4. Open the Public Keys tab.



Public Key ID	Public Key
23F3156AA4864460DF9FB777F1AD7...	0201018EFD5E3DBEB972DD357B24815202302FF8

Public Keys Tab

5. On the Public Keys tabs, you can change the following fields:

New Public Key ID

Enter the new Public Key ID provided to you by the Transfer Partner.

New Public Key

Enter the new Public Key provided to you by the Transfer Partner.

New Public Key Fingerprint

This read-only field shows the fingerprint, or hash value, of the new Public Key. Verify this key with the sending transfer partner.

Existing Public Keys

This list displays Public Keys associated with this Transfer Partner.

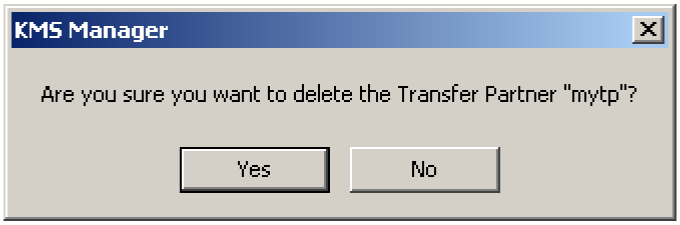
6. When you are finished, choose the Save button.

Deleting a Transfer Partner

This option gives the Security Officer the ability to delete a Transfer Partner.

To delete a Transfer Partner:

1. From the Transfer Partner List screen, highlight the Transfer Partner ID you want to delete and choose the Delete button. The Transfer Partner Confirm Delete dialog box is displayed.



Are you sure you want to delete the Transfer Partner "mytp"?

2. Choose the Yes button to delete the Transfer Partner. The currently selected Transfer Partner is deleted, and you are returned to the Transfer Partner List screen.

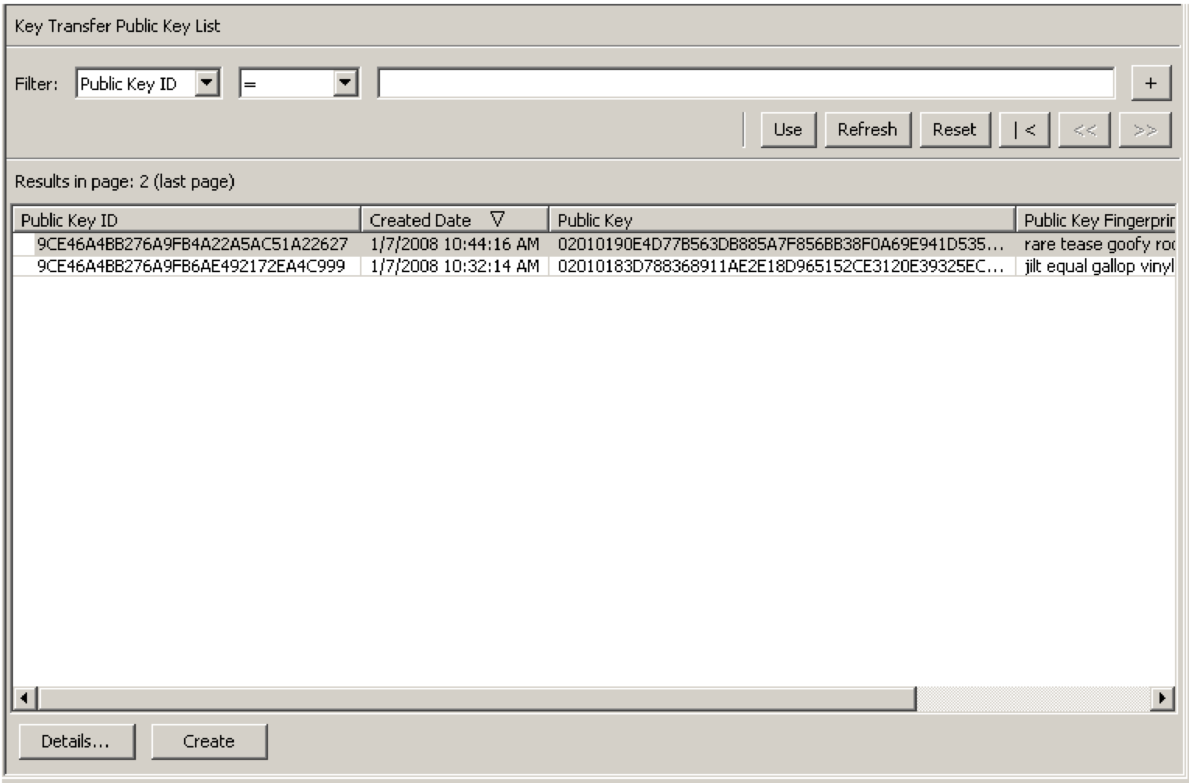
Key Transfer Public Key List Menu

To share keys between Transfer Partners, Security Officers first must access Public Key information for their KMS cluster. This menu provides public key information. The Public Key and Public Key ID displayed by this command must be sent to the Transfer Partner.

Viewing the Key Transfer Public Key List

To view the Key Transfer Public Key List:

From the System Management menu, select Key Transfer Public Key List.



Results in page: 2 (last page)

Public Key ID	Created Date ▽	Public Key	Public Key Fingerprir
9CE46A4BB276A9FB4A22A5AC51A22627	1/7/2008 10:44:16 AM	02010190E4D77B563DB885A7F856BB38F0A69E941D535...	rare tease goofy roc
9CE46A4BB276A9FB6AE492172EA4C999	1/7/2008 10:32:14 AM	02010183D788368911AE2E18D965152CE3120E39325EC...	jilt equal gallop vinyl

You can also scroll through the database and filter the Key Transfer Public Key List by any of the following keys:

- Public Key ID
- Created Date
- Public Key

The **Use** button applies the filter to the displayed list for the Key Transfer Public Key List.

The fields and their descriptions are given below:

Filter:

Select filter options to filter the displayed list of Public Keys. Only Public Keys that satisfy all filters will be displayed.

Filter Attribute combo box:

Click the down-arrow and select an attribute to filter by. Possible values are:

- Public Key ID
- Created Date
- Public Key

Filter Operator combo box:

Click the down-arrow and select the filter operation to apply to the selected attribute. This filter option is not displayed for all filter attributes. Possible values are:

- Equals =
- Not equal <>
- Greater than >
- Less than <
- Greater than or equals >=
- Less than or equals <=
- Starts with ~
- Empty
- Not empty

Filter Value text box:

Type a value to filter the selected attribute by. This filter option is not displayed for all filter attributes.

Filter Value combo box:

Click the down-arrow and select a value to filter the selected attribute by. This filter option is not displayed for all filter attributes.

Filter Value combo box:

Click the down-arrow and select a value to filter the selected attribute by. This filter option is not displayed for all filter attributes.

+ Click this button to add additional filters.

− Click this button to remove a filter. This button is only displayed if there is more than one filter shown.

Use:

Click this button to apply the selected filters to the displayed list and go to the first page.

Refresh:

Click this button to refresh the displayed list. This does not apply filters selected since the last Use or Reset, and does not change the page of the list.

Reset:

Click this button to remove all filters and reset the displayed list to the first page.

|<

Click this button to go to the first page of the list.

<<

Click this button to go to the previous page.

>>

Click this button to go to the next page.

Results in Page:

Displays the number of items that can be displayed on the current page. Appends "(last page)" to the number of items if you are at the end of the list. The maximum number of items displayed on a page is defined by the Query Page Size value on the Options dialog.

Public Key ID:

Displays the unique identifier that distinguishes each Public Key. This value can be between 1 and 64 (inclusive) characters. Click this Column Name to sort by this attribute.

Created Date:

Displays the date and time when this Public Key was created. Click this Column Name to sort by this attribute.

The private key corresponding to the most recently created public key will be used to sign all exported Key Transfer files.

Public Key:

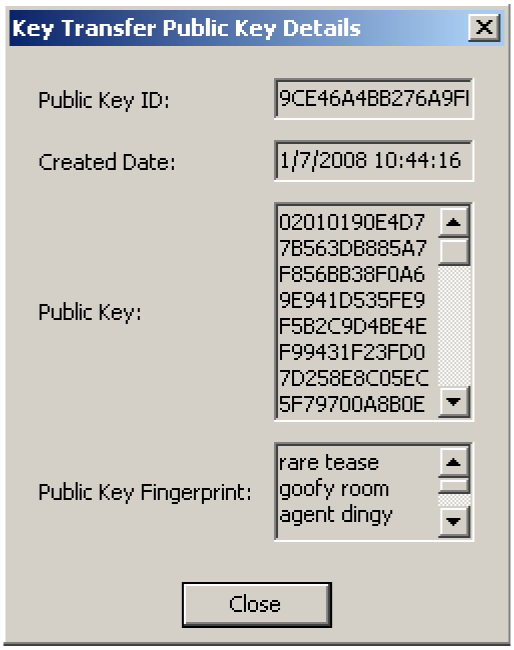
Displays the Public Key used to perform key transfers between Transfer partners. This value is shown in base 64. Click this Column Name to sort by this attribute.

Public Key Fingerprint:

The hash of the Public Key. This value is used to verify the Public Key is correctly transmitted, and it is shown in base 64.

Viewing the Key Transfer Public Key Details

To view the Key Transfer Public Key details screen, select a Public Key and click the Details button.



Public Key ID: 9CE46A4BB276A9FI

Created Date: 1/7/2008 10:44:16

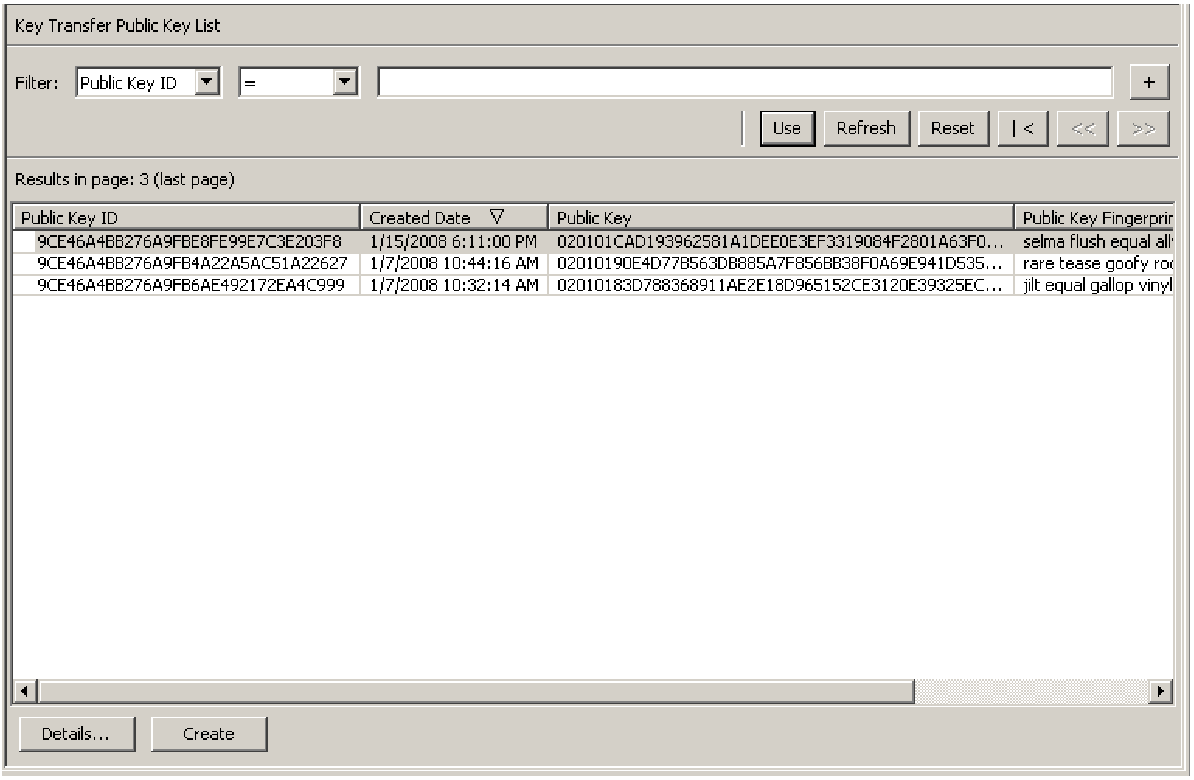
Public Key: 02010190E4D7
7B563DB885A7
F856BB38F0A6
9E941D535FE9
F5B2C9D4BE4E
F99431F23FD0
7D258E8C05EC
5F79700A8B0E

Public Key Fingerprint: rare tease
goofy room
agent dingy

Creating a Key Transfer Public Key

To create a Key Transfer Public Key, click the Create button.

After creating a new key, it must be provided to all existing Transfer Partners. Since any Key Transfer files created after the new Key Transfer Public Key is created will be signed with the new Key Transfer Public Key , partners must be provided with the new Key Transfer Public Key before they can import the new Key Transfer files.



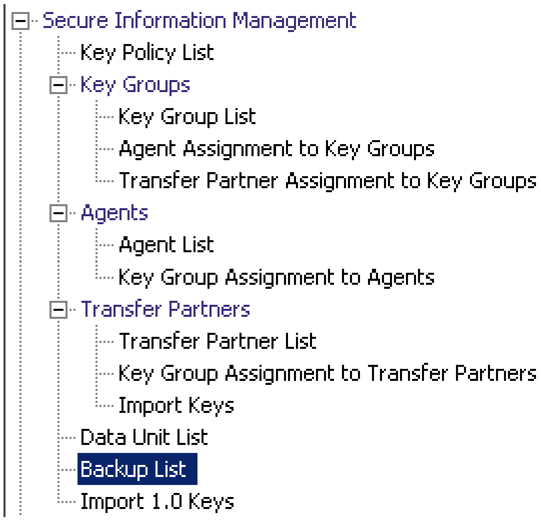
Results in page: 3 (last page)

Public Key ID	Created Date ▽	Public Key	Public Key Fingerprir
9CE46A4BB276A9FBE8FE99E7C3E203F8	1/15/2008 6:11:00 PM	020101CAD193962581A1DEE0E3EF3319084F2801A63F0...	selma flush equal all
9CE46A4BB276A9FB4A22A5AC51A22627	1/7/2008 10:44:16 AM	02010190E4D77B563DB885A7F856BB38F0A69E941D535...	rare tease goofy roc
9CE46A4BB276A9FB6AE492172EA4C999	1/7/2008 10:32:14 AM	02010183D788368911AE2E18D965152CE3120E39325EC...	jilt equal gallop vinyl

Backup List Menu

The Backups List menu option allows the Security Officer to:

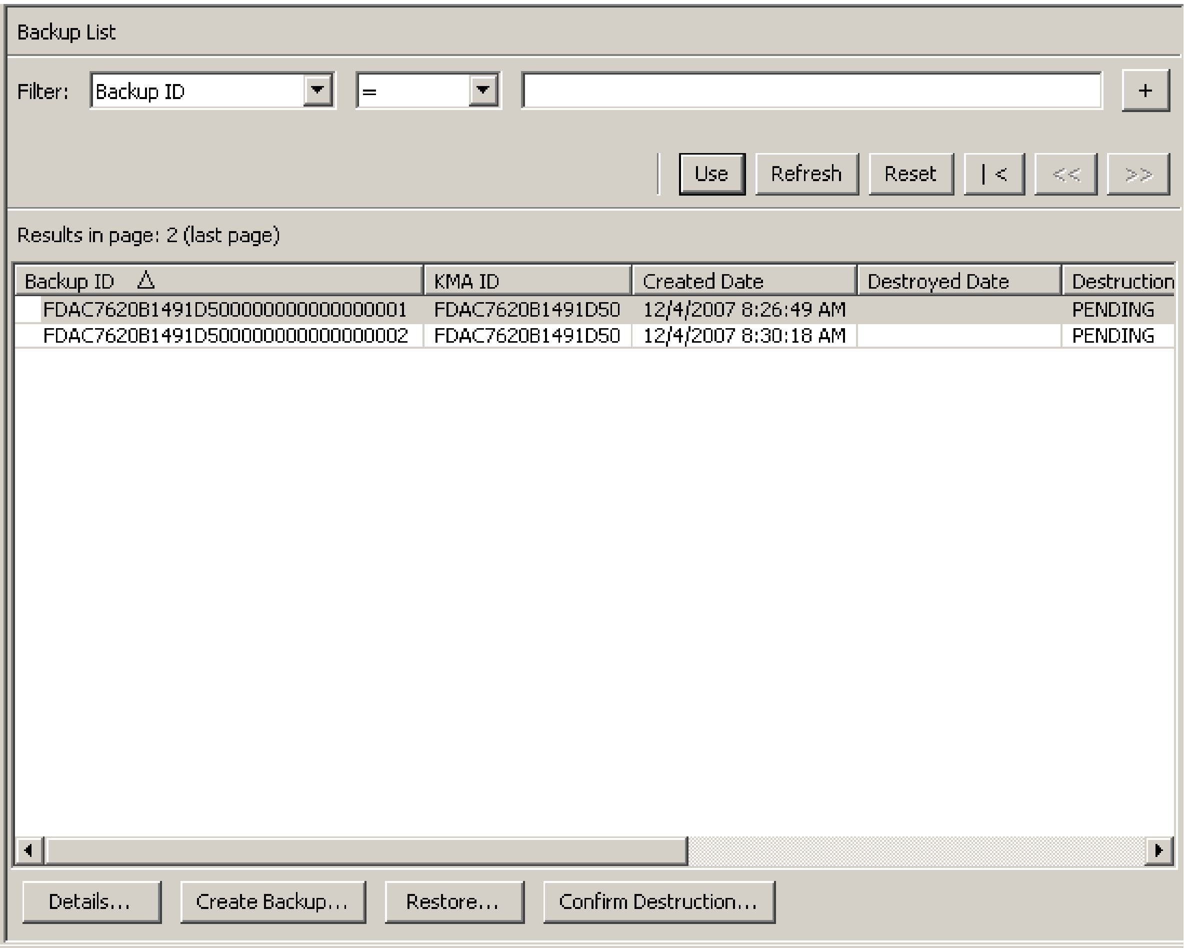
- View the history of the Backups
- View details of a Backup file
- Restore Backups


Secure Information Management
Key Policy List
Key Groups
Key Group List
Agent Assignment to Key Groups
Transfer Partner Assignment to Key Groups
Agents
Agent List
Key Group Assignment to Agents
Transfer Partners
Transfer Partner List
Key Group Assignment to Transfer Partners
Import Keys
Data Unit List
Backup List
Import 1.0 Keys

Viewing Backup Files History

To view Backup files history:

From the Secure Information Management menu, select Backup List. The Backup List screen is displayed.



Results in page: 2 (last page)

Backup ID △	KMA ID	Created Date	Destroyed Date	Destruction
FDAC7620B1491D500000000000000001	FDAC7620B1491D50	12/4/2007 8:26:49 AM		PENDING
FDAC7620B1491D500000000000000002	FDAC7620B1491D50	12/4/2007 8:30:18 AM		PENDING

You can also scroll through the database and filter the Backup Files by any of the following keys:

- Backup ID
- KMA ID
- Created Date
- Destroyed Date
- Destruction Status
- Destruction Comment.

The + button applies the filter to the displayed list for the Backup file.

The fields and their descriptions are given below:

Filter:

Displays the fields that you can use to filter the results of queries made to the KMA. Possible values are:

- Backup ID
- Created Date
- Destroyed Date
- Destruction Status
- Destruction Comment.

Filter Operator box:

Click the down-arrow and select the filter operation you want. Possible values are:

- Equals =
- Not equal <>
- Greater than >
- Less than <
- Greater than or equals >=
- Less than or equals <=
- Starts with ~

Filter Value 1 box:

If you selected a date filter, click Set Date to specify start date and time. The value appears as a starting value of the filter key range. If you selected any other filter, type a value in this field.

Filter Value 2 box:

If you selected a date filter, click Set Date to select an end date and time. The value appears as a ending value of the filter key range.

Use:

Click this button to apply the filter to the displayed list.

Refresh:

Click this button to refresh the list.

Reset:

Click this button to remove all filters and reset the displayed list to the first page.

|<

Click this button to go to the first page of the list.

<<

Click this button to go to the previous page.

>>

Click this button to go to the next page.

Results in Page:

Displays the number of records per page that were configured in the Query Page Size field in the Options dialog box.

Backup ID

Displays a system-generated unique identifier that distinguishes each Backup file.

KMA ID

Displays the KMA for which the Backup file was generated.

Created Date

Displays the date when the backup was created.

Destroyed Date

Displays the date that the Backup file was marked as being manually destroyed.

Destruction Status

Indicates the status of the backup with respect to its destruction. Possible values are:

NONE

The Backup file has not been destroyed and does not contain Data Unit keys that have been destroyed.

PENDING

The Backup file has not yet been manually destroyed and contains copies of Data Unit keys that have been destroyed.

DESTROYED

The Backup file has been manually destroyed.

Destruction Comment

Displays user-supplied information on the Backup file's destruction.

Details:

Click this button to view more detailed information on a Backup.

Create Backup:

Click this button to create a Backup. This button is not enabled if you are a Security Officer.

Restore:

Click this button to restore a Backup.

Confirm Destruction:

Click this button to confirm the destruction of a Backup. This button is not enabled if you are a Security Officer.

If you want more detailed information on a backup, highlight the backup and choose the Details button. For more information, refer to “Viewing Backup Details” on page 150.

Choose the Restore button to restore the currently selected backup. For more information, refer to “Restoring a Backup” on page 152.

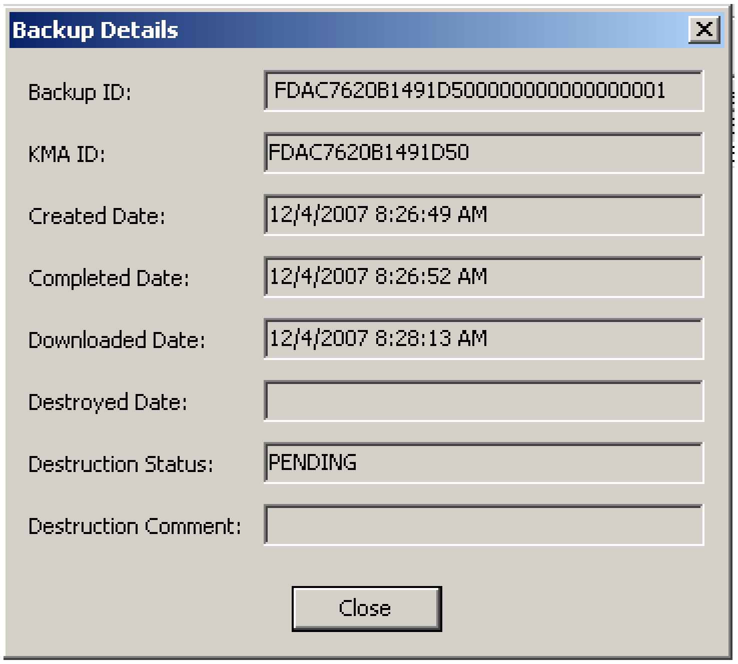
Viewing Backup Details

The Backup Details dialog box is used to view the details of a Backup file.

Note – Backup files are created and restored on the KMA.

To view the details of a Backup file:

1. From the Backups List screen, double-click the Backup entry for which you want more information or highlight the Backup entry and choose the Details button. The Backup Details dialog box is displayed, with all fields read-only.



Backup ID: FDAC7620B1491D500000000000000001

KMA ID: FDAC7620B1491D50

Created Date: 12/4/2007 8:26:49 AM

Completed Date: 12/4/2007 8:26:52 AM

Downloaded Date: 12/4/2007 8:28:13 AM

Destroyed Date:

Destruction Status: PENDING

Destruction Comment:

2. The fields and their descriptions are given below:

Backup ID

Displays a system-generated unique identifier that distinguishes each Backup file.

KMA ID

Displays the KMA on which this Backup file is generated.

Created Date

Displays the date and time when the Backup file was created.

Completed Date

Displays the date and time when the Backup file was completed.

Downloaded Date

Displays the date and time when the Backup file was downloaded.

Destroyed Date

Displays the date when the Backup file was destroyed.

Destruction Status

Indicates the status of the backup with respect to its destruction.

Destruction Comment

Displays user-supplied information on the Backup file's destruction.

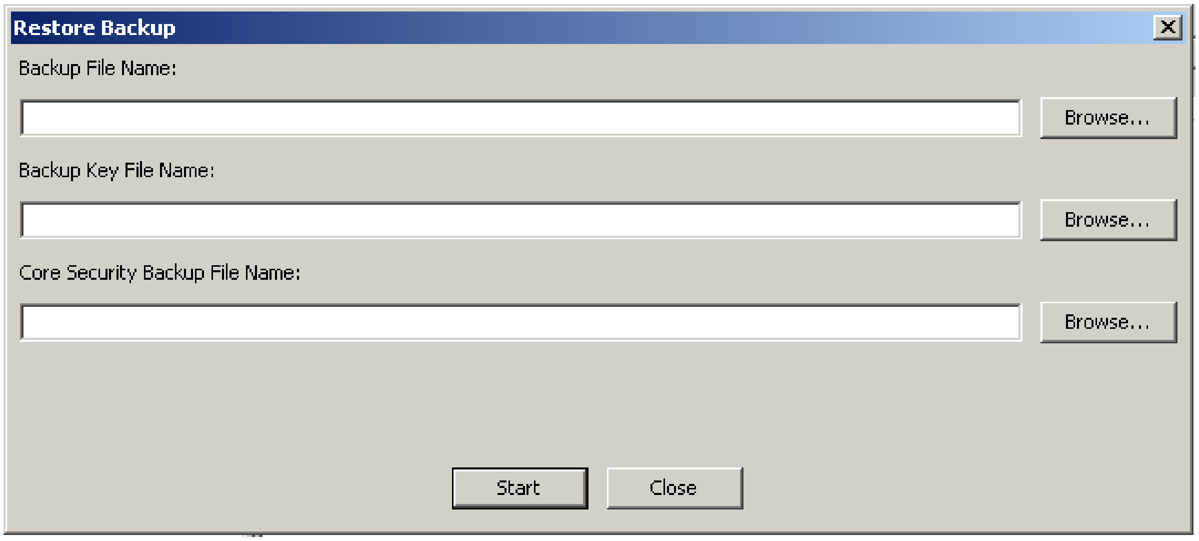
3. Choose the Close button to close this dialog box.

Restoring a Backup

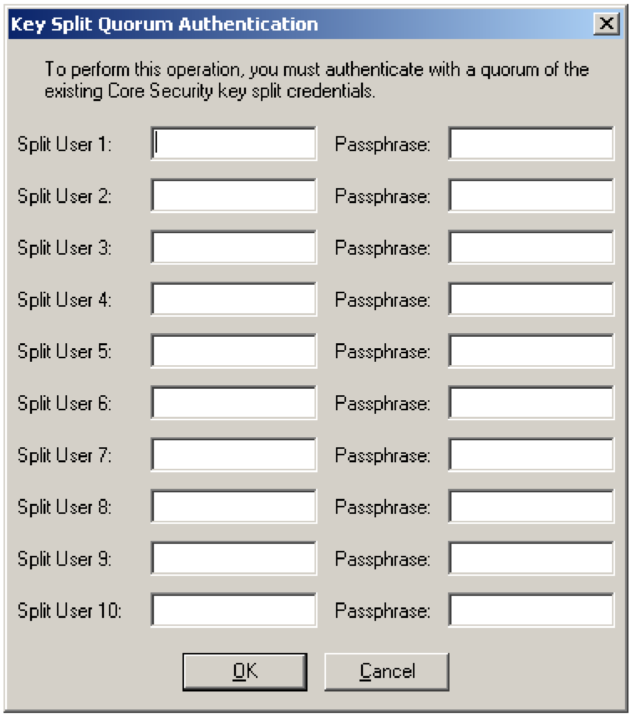
This function gives the user the ability to upload and restore a backup that consists of a Backup file and a Backup key file to the KMA. Before you restore a Backup file to a KMA, ensure that you have the quorum for authentication.

To restore a backup:

1. From the Backup List screen, highlight the Backup you want to restore and choose the Restore button. The Restore Backup dialog box is displayed.
2. Select the desired Core Security backup, backup key file, and backup file. The backup key file and the backup must match, that is, they must have been created at the same time. The Core Security backup can be older or newer than the backup key file and backup file. Any Core Security backup file can be used with any backup key file and backup file.
3. Choose the Start button.



4. When the upload process is completed, it is indicated on the Restore Backup dialog box and the Key Split Quorum Authentication dialog box is displayed. The quorum must type their user names and passphrases to authenticate the operation.



Key Split Quorum Authentication

To perform this operation, you must authenticate with a quorum of the existing Core Security key split credentials.

Split User 1:		Passphrase:	
Split User 2:		Passphrase:	
Split User 3:		Passphrase:	
Split User 4:		Passphrase:	
Split User 5:		Passphrase:	
Split User 6:		Passphrase:	
Split User 7:		Passphrase:	
Split User 8:		Passphrase:	
Split User 9:		Passphrase:	
Split User 10:		Passphrase:	

5. Choosing the OK button after the last user name and passphrase is entered, sends the user names and passphrases to the KMA for authentication. If the authentication is successful, the Key Split Quorum Authentication dialog box closes.

   The user IDs and passphrases, and the number required (i.e., the quorum) must match with the Key Split Credentials that were in effect when the Core Security backup was created.

6. The Restore Backup dialog box is displayed, indicating the status of the restore process.

7. The fields and their descriptions are given below:

Backup File Name

Name of the backup file.

Backup Wrapping Key File Name

Displays the name of the Backup Key File.

Core Security Backup File Name

Name of the backup file containing Core Security Key material.

8. When the restore is completed, a message indicating this is displayed. Choose the Close button to close this dialog box. The database and the Secure Key Store are restored to the KMA.

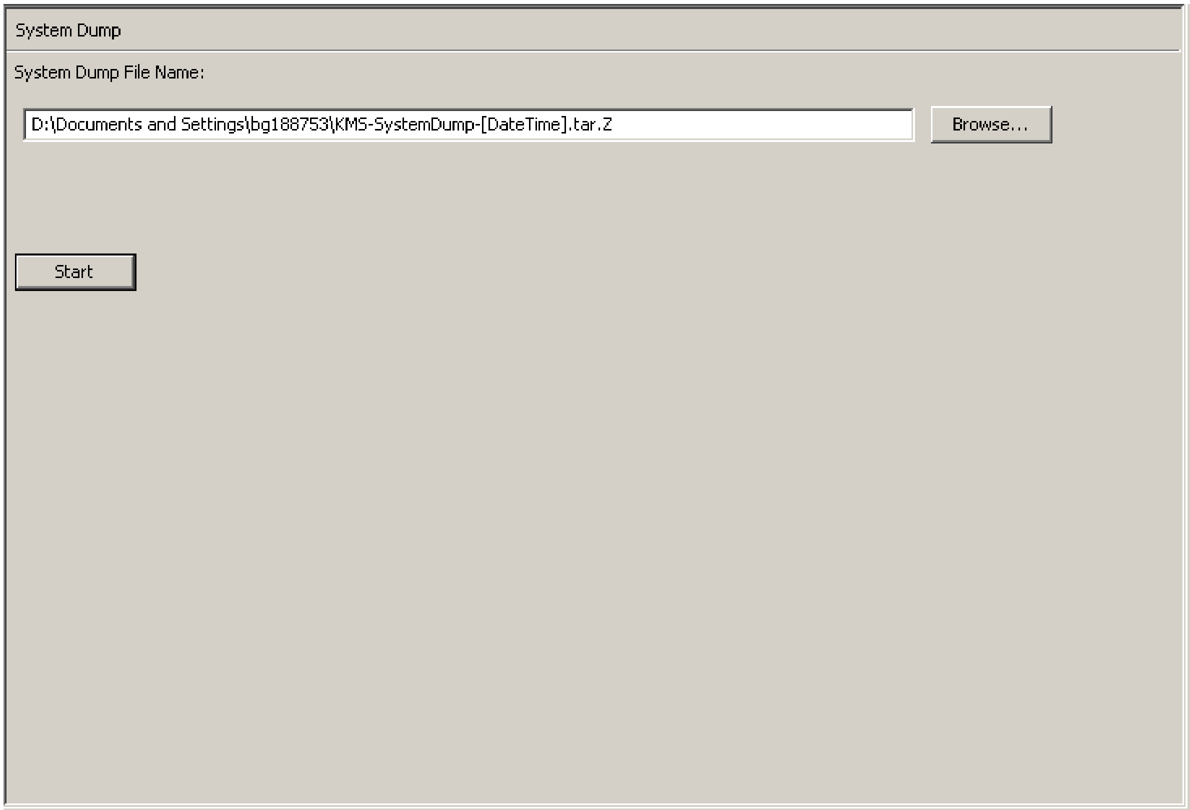
System Dump Menu

The System Dump menu creates a system dump for problem resolution and downloads it to a compressed file on the system where the KMS Manager is running. The downloaded file is in a format that can be opened with compression utilities.

Note – The dump does not include any key material or information from which keys can be inferred.

Creating a System Dump

1. To create a system dump, from the System Management menu, select System Dump. The screen is displayed and shows an automatically-generated *.tar.Z file. If desired, you can click Browse to select a destination path.
2. Click the Start button to begin the download. The system displays messages indicating the amount of system dump information that is being downloaded in real-time and tells you when the process is complete.
3. Go to the destination path and open the *.tar.Z file to view the system dump information.



System Dump File Name:

D:\Documents and Settings\bg188753\KMS-SystemDump-[DateTime].tar.Z

The fields and their descriptions are given below:

File Name:

Displays an automatically-generated *.tar.gz file.

Browse:

Click this button to specify a location for this file.

Start:

Click this button to initiate the download process.

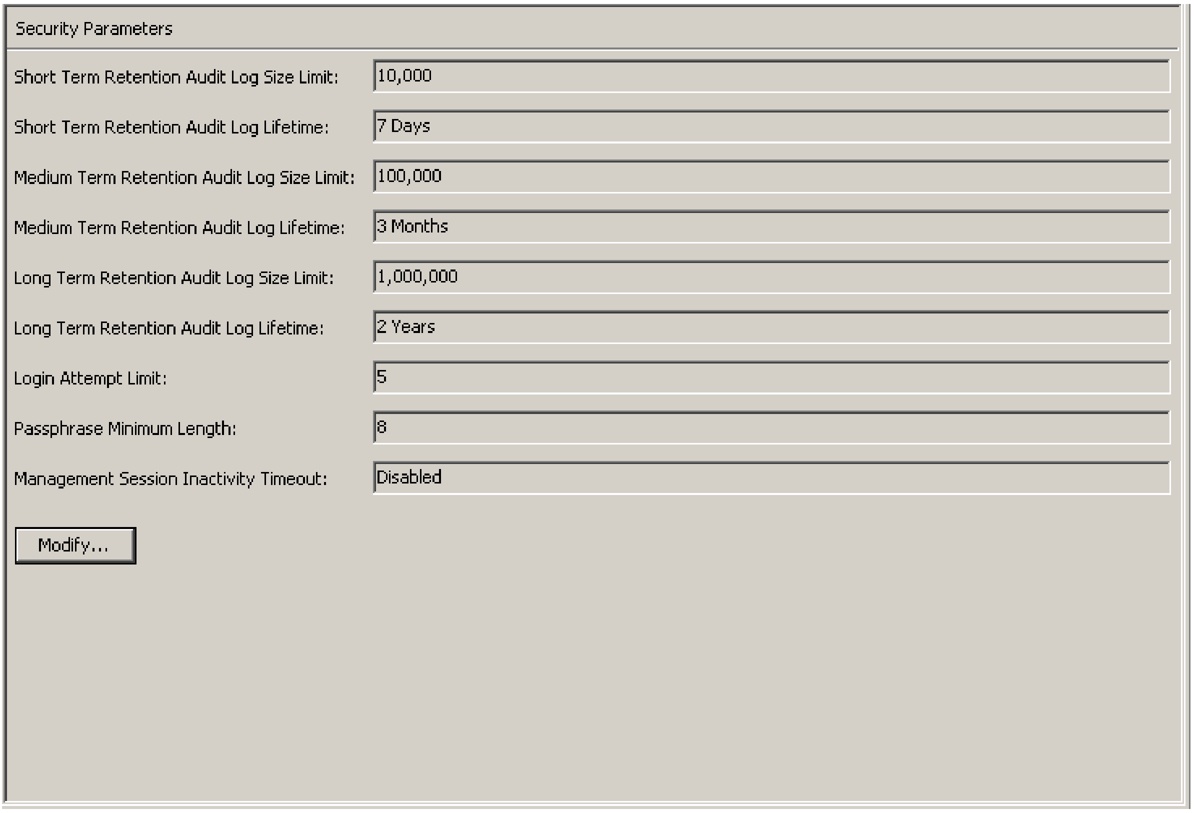
Security Parameters Menu

The Security menu gives the Security Officer the ability to view and modify the KMA's security parameters.

Retrieving the Security Parameters

To retrieve the security parameters:

From the Security menu, select Security Parameters. The Security Parameters screen is displayed in read-only mode.



Security Parameters

Short Term Retention Audit Log Size Limit:	10,000
Short Term Retention Audit Log Lifetime:	7 Days
Medium Term Retention Audit Log Size Limit:	100,000
Medium Term Retention Audit Log Lifetime:	3 Months
Long Term Retention Audit Log Size Limit:	1,000,000
Long Term Retention Audit Log Lifetime:	2 Years
Login Attempt Limit:	5
Passphrase Minimum Length:	8
Management Session Inactivity Timeout:	Disabled

The fields and their descriptions are given below:

Short Term Retention Audit Log Size Limit

Displays the number of Error event Audit Log entries that are retained before they are truncated. The default is 10,000. The minimum value is 1000; maximum value is 1,000,000.

Short Term Retention Audit Log Lifetime

Displays the amount of time (in days) that Short Term Audit Log entries are retained before they are truncated. The default is 7 days. The minimum value is 7 days; maximum value is 25,185 days (approximately 69 years).

Medium Term Retention Audit Log Size Limit

Displays the number of Error event Audit Log entries that are retained before they are truncated. The default is 100,000. The minimum value is 1000; maximum value is 1,000,000.

Medium Term Retention Audit Log Lifetime

Displays the amount of time (in days) that Short Term Audit Log entries are retained before they are truncated. The default is 90 days. The minimum value is 7 days; maximum value is 24,855 days.

Long Term Retention Audit Log Size Limit

Displays the number of long term retention Audit Log entries that are retained before they are truncated. The default is 1,000,000. The minimum value is 1000; maximum value is 1,000,000.

Long Term Retention Audit Log Lifetime

Displays the amount of time (in days) that Long Term Audit Log entries are retained before they are truncated. The default is 730 days. The minimum value is 7 days; maximum value is 24,855 days.

Login Attempt Limit

Indicates the number of failed login attempts before an entity is disabled. The default is 5. The minimum value is 1; maximum value is 1000.

Passphrase Minimum Length

Displays the minimum length of the passphrase. The default is 8 characters. The minimum value is 8 characters; the maximum value is 64 characters.

Management Session Inactivity Timeout

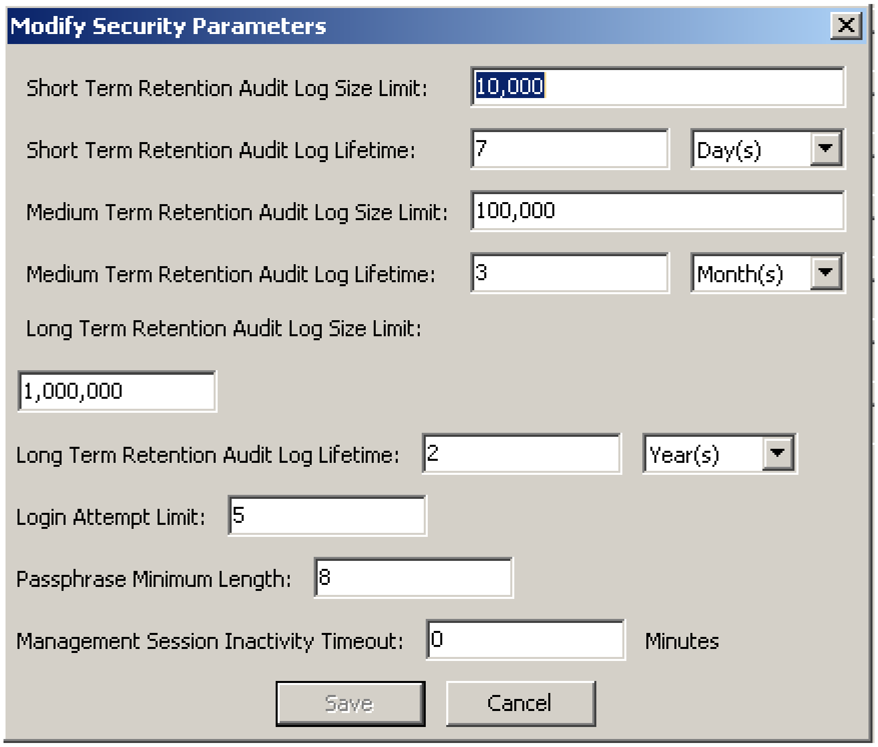
Displays the maximum length of time (in minutes) a KMS Manager or Console login session can be left idle before being automatically logged out. Changing this value has no effect on sessions that are already in progress. The default is 15 minutes. The minimum value is 0, meaning no time is used; the maximum value is 60 minutes.

If you want to change the Security Parameters, choose the Modify button. For more information, refer to Modifying the Security Parameters on page 5-37.

Modifying the Security Parameters

To modify security parameters:

1. From the Security Parameters List screen, choose the Modify button. The Modify Security Parameters screen is displayed.



Short Term Retention Audit Log Size Limit: 10,000

Short Term Retention Audit Log Lifetime: 7 Day(s)

Medium Term Retention Audit Log Size Limit: 100,000

Medium Term Retention Audit Log Lifetime: 3 Month(s)

Long Term Retention Audit Log Size Limit: 1,000,000

Long Term Retention Audit Log Lifetime: 2 Year(s)

Login Attempt Limit: 5

Passphrase Minimum Length: 8

Management Session Inactivity Timeout: 0 Minutes

2. Modify the security parameters, as required. When you are finished, choose the Save button. The changes are saved in the KMA database.

Core Security

The primary element of the Core Security component is the Root Key Material. It is key material that is generated when a Cluster is initialized. The Root Key Material protects the Master Key. The Master Key is a symmetric key that protects the Data Unit Keys stored on the KMA.

Core Security is protected with a key split scheme that requires a quorum of users defined in the Key Split Credentials to provide their usernames and passphrases to unwrap the Root Key Material.

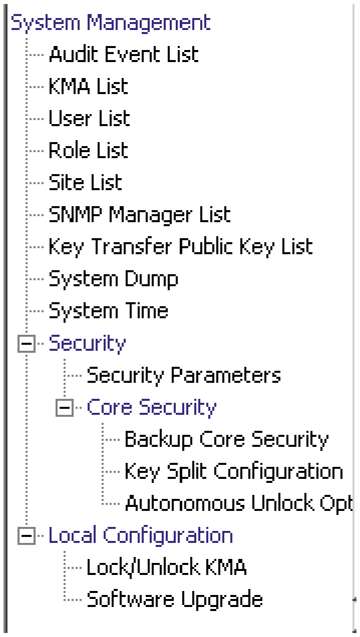
This security mechanism enables two operational states for the KMA: locked and unlocked.

A KMA in the locked state is not able to unwrap the Root Key Material, and thus is unable to access the Data Unit Keys. As a result, the KMA is unable to service Agent requests to register new Data Units or retrieve Data Unit Keys for existing Data Units.

A KMA in the unlocked state is able to use the Root Key Material to access the Data Unit Keys and service Agent requests for Data Unit Keys.

Core Security Management Menu

The Core Security menu contains the following menu options:



It allows the Security Officer to:

- Create a Core Security backup
- View/Modify Key Split Credentials
- Enable/Disable the Autonomous Unlock Option

Backup Core Security

The Backup Core Security option allows the Security Officer to back up Core Security Key material and download it to a file on the local system.

Caution – Core security backup files should be carefully protected. Because any Core Security backup file can be used with any backup file/backup key file pair, even old Core Security backup files remain useful.

Creating a Core Security Backup

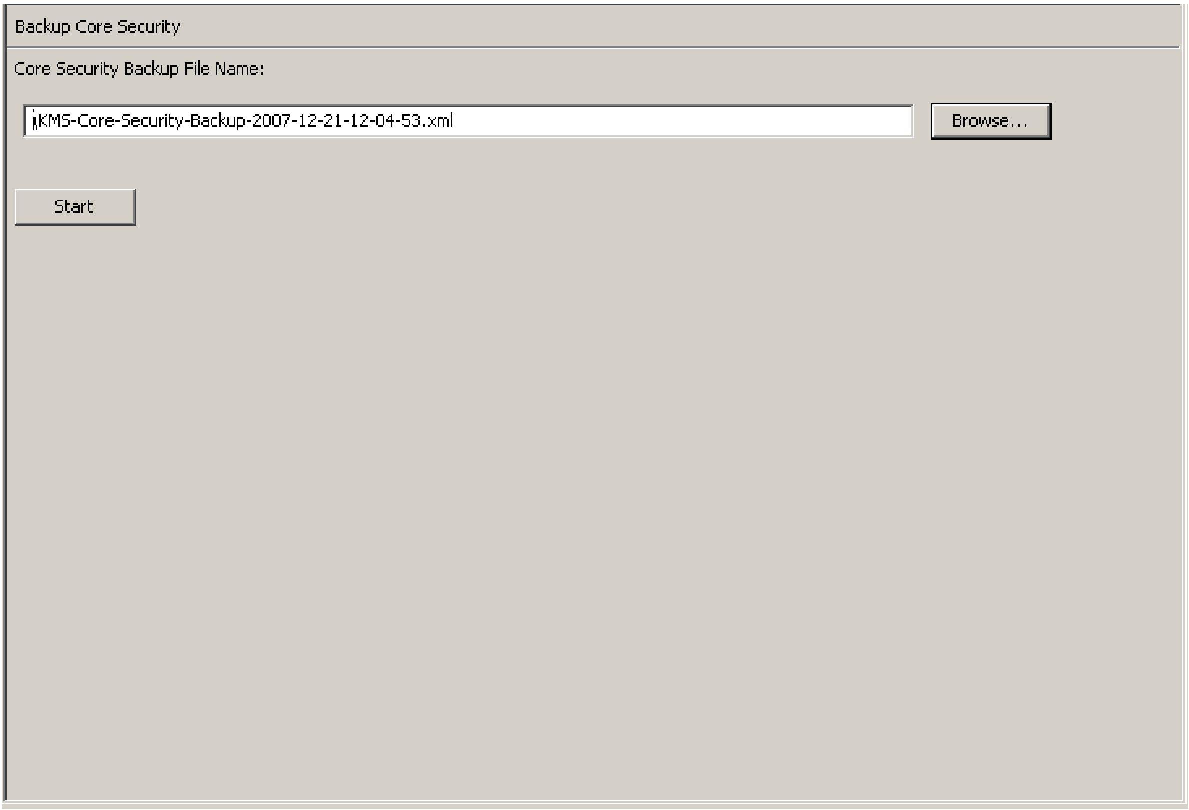
A new core security backup needs to be performed after the Key Split Credentials are modified.

Important – The Security Officer must back up Core Security Key material before the Backup Officer can create a backup. See "Creating a Backup" on page 261.

---

1. From the Core Security menu, select Backup Core Security. The Backup Core Security screen is displayed.

Note – The Core Security Backup File names are automatically generated. However, you can edit the names, and you can also choose the Browse button to select a destination path.



KMS-Core-Security-Backup-2007-12-21-12-04-53.xml

2. Select the Start button to create the Core Security Backup file and download it to the user-specified destination.
3. When the backup is completed, a message is displayed. Choose the Close button to close this dialog box
4. You are returned to the Backup Core Security screen.

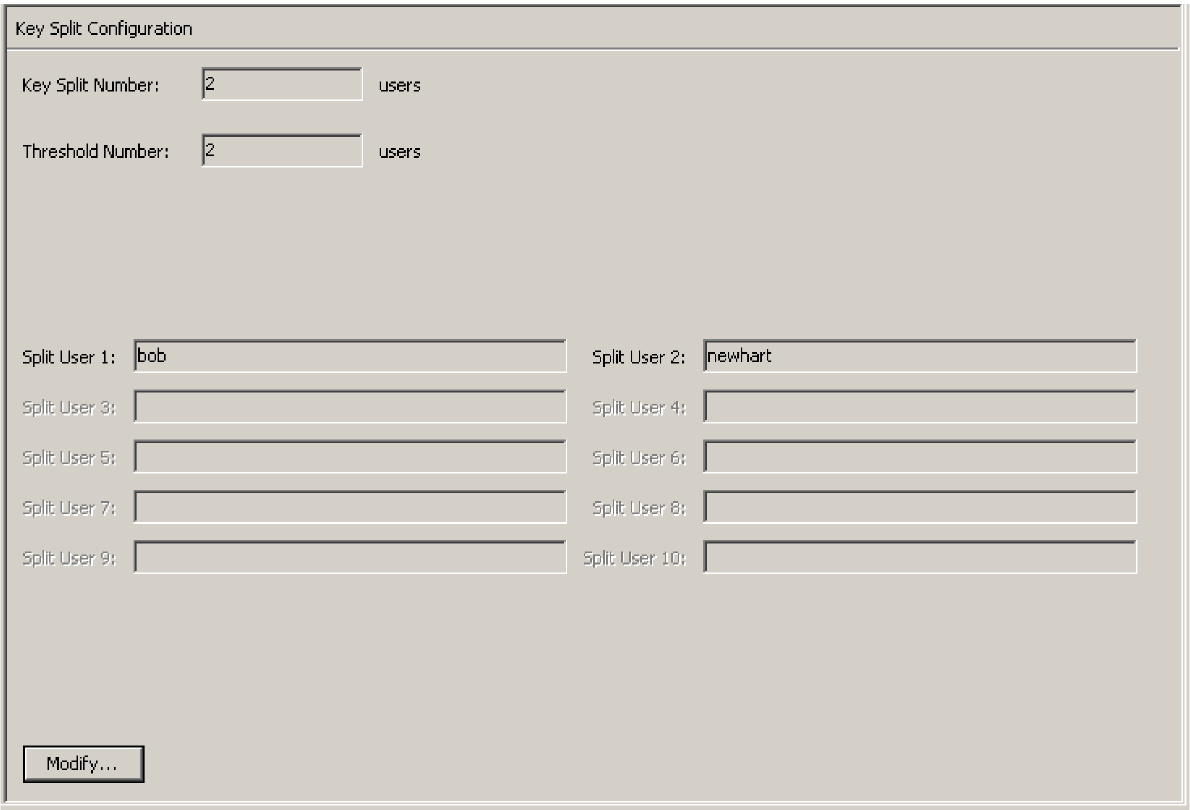
Key Split Configuration

The Key Split Configuration menu option gives the Security Officer the ability to view and modify the key split credentials for the KMA.

Viewing the Key Split Configuration

To view the Key Split Configuration:

1. From the Core Security menu, select Key Split Configuration. The Key Split Configuration screen is displayed.



Key Split Configuration

Key Split Number: 2 users

Threshold Number: 2 users

Split User 1: bob

Split User 2: newhart

Split User 3:

Split User 4:

Split User 5:

Split User 6:

Split User 7:

Split User 8:

Split User 9:

Split User 10:

The fields and their descriptions are given below:

Key Split Number

Displays the number of key splits. The maximum is 10.

Threshold Number

Displays the number of users that are necessary to authenticate a quorum.

Split User (1-10)

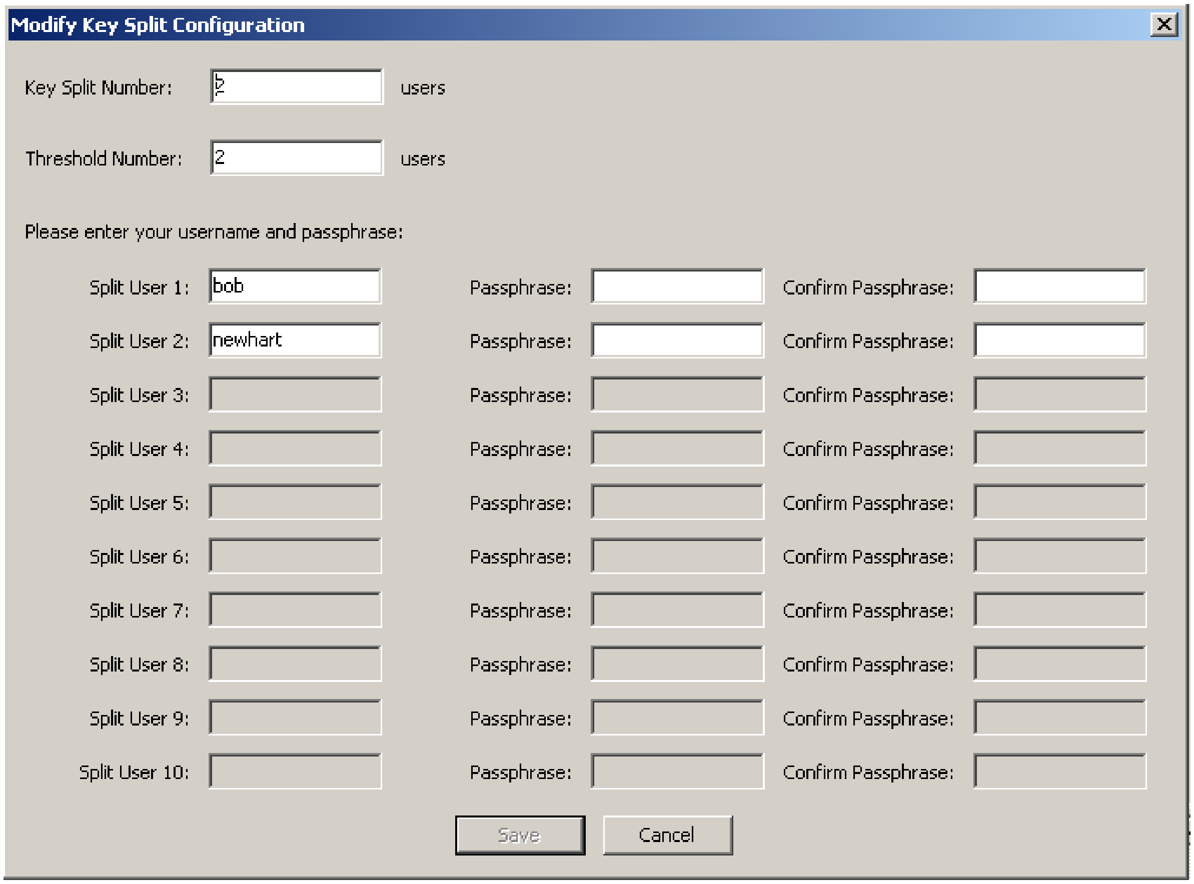
Displays the user names of the existing split.

If you want to modify the Key Split user names, passphrases, and threshold number, choose the Modify button. For more information, refer to "Modifying the Key Split Configuration" on page 164.

Modifying the Key Split Configuration

To modify the Key Split configuration:

1. From the Key Split Configuration screen, choose the Modify button. The Modify Key Split Configuration dialog box is displayed.



Modify Key Split Configuration

Key Split Number: 2 users

Threshold Number: 2 users

Please enter your username and passphrase:

Split User 1:	bob	Passphrase:		Confirm Passphrase:	
Split User 2:	newhart	Passphrase:		Confirm Passphrase:	
Split User 3:		Passphrase:		Confirm Passphrase:	
Split User 4:		Passphrase:		Confirm Passphrase:	
Split User 5:		Passphrase:		Confirm Passphrase:	
Split User 6:		Passphrase:		Confirm Passphrase:	
Split User 7:		Passphrase:		Confirm Passphrase:	
Split User 8:		Passphrase:		Confirm Passphrase:	
Split User 9:		Passphrase:		Confirm Passphrase:	
Split User 10:		Passphrase:		Confirm Passphrase:	

2. Complete the following parameters and choose the OK button:

Key Split Number

Type a new value for the number of key splits. The maximum number is 10.

Threshold Number

Type a new value for the number of users that will be required to form a quorum.

Split User *x*

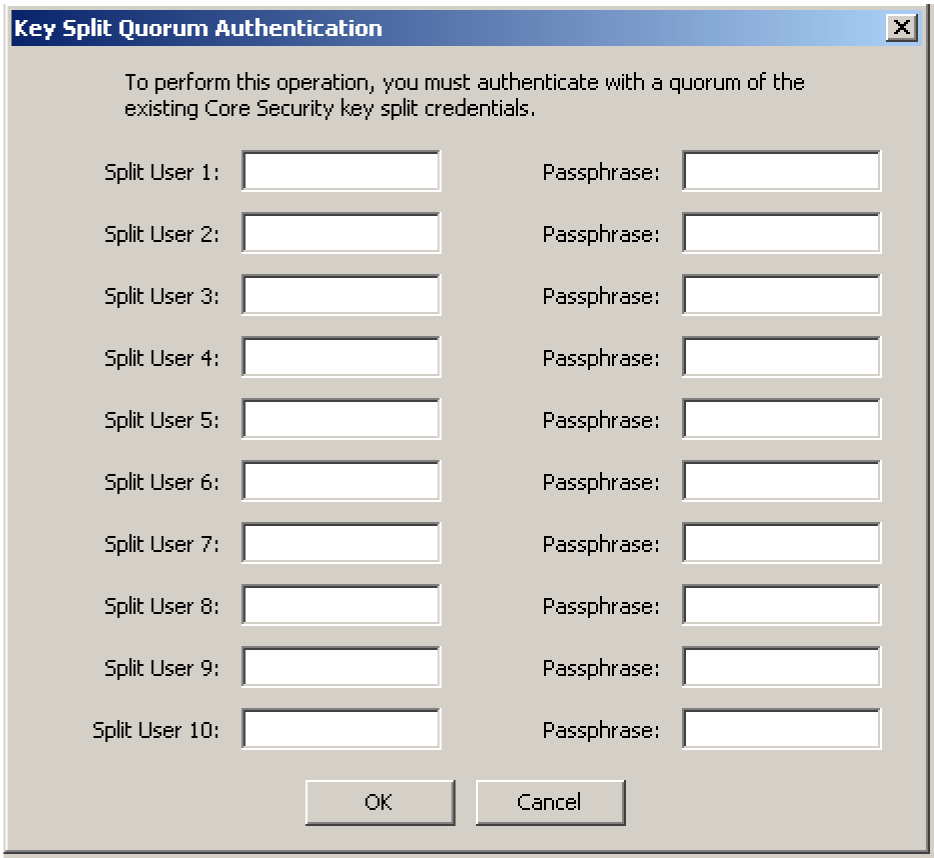
Type the new user name. For each Split User, complete its associated Passphrase and Confirm Passphrase fields.

Note – The number of Split User fields that are enabled is dependent on the value that you entered in the Key Split Number field.

---

3. Choose the Save button after the last user name and passphrase is entered.

4. The Key Split Quorum Authentication dialog box is displayed after the new Key Split credentials are entered. Type the user name and passphrase for the existing quorum credentials and choose the OK button. This required to set “new” credentials set in Step 2 and Step 3.



To perform this operation, you must authenticate with a quorum of the existing Core Security key split credentials.

5. The system updates the old configuration information with the new configuration in the database. The new configuration is displayed in the Key Split Credentials screen.

Note – The Core Security Key material is re-wrapped using the updated Key Split credentials.

6. Create a new Core Security backup (see “Creating a Core Security Backup” on page 161).

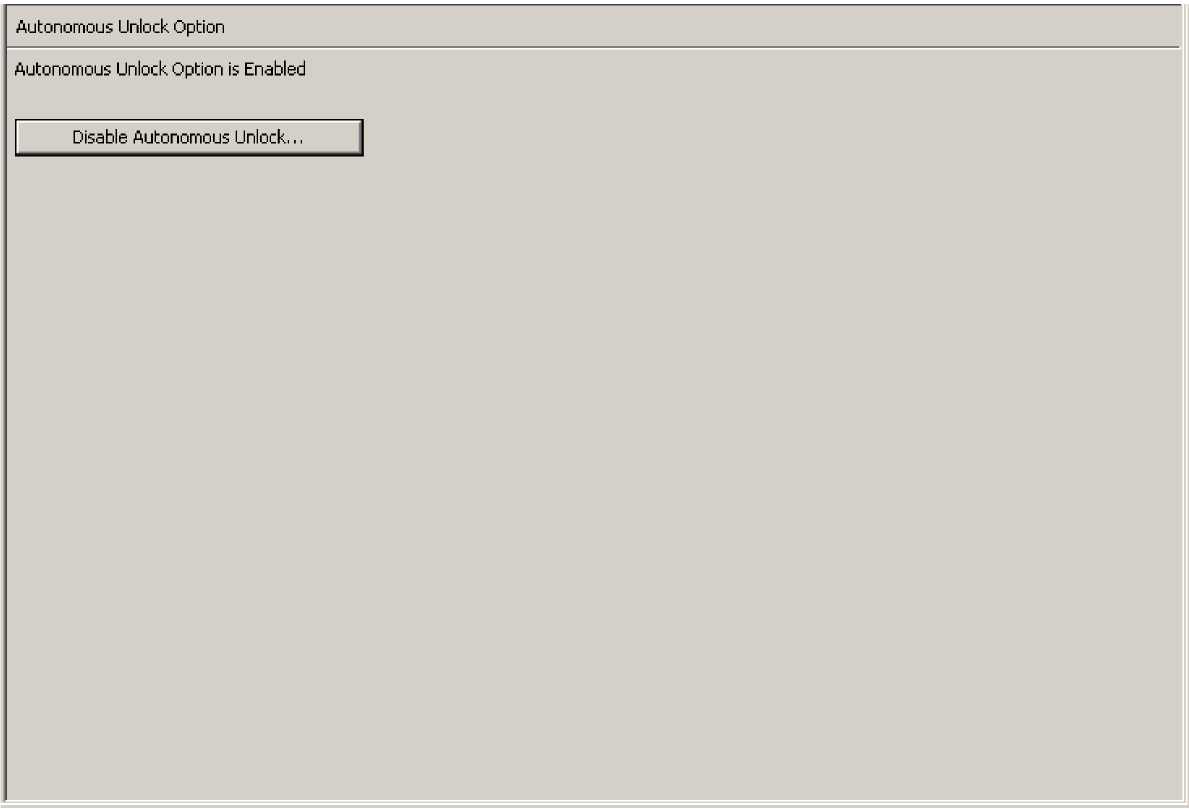
Note – Destroy all old Core Security backup files to ensure that the previous Key Split Credentials cannot be used to destroy a backup.

Autonomous Unlock Option

The Autonomous Unlock Option menu option gives the Security Officer the ability to enable or disable the autonomous option for the KMA.

To enable or disable the Autonomous Unlock option:

1. From the Core Security menu, select Autonomous Unlock Option. The Autonomous Unlock Option screen is displayed, indicating the current autonomous status.



Autonomous Unlock Option

Autonomous Unlock Option is Enabled

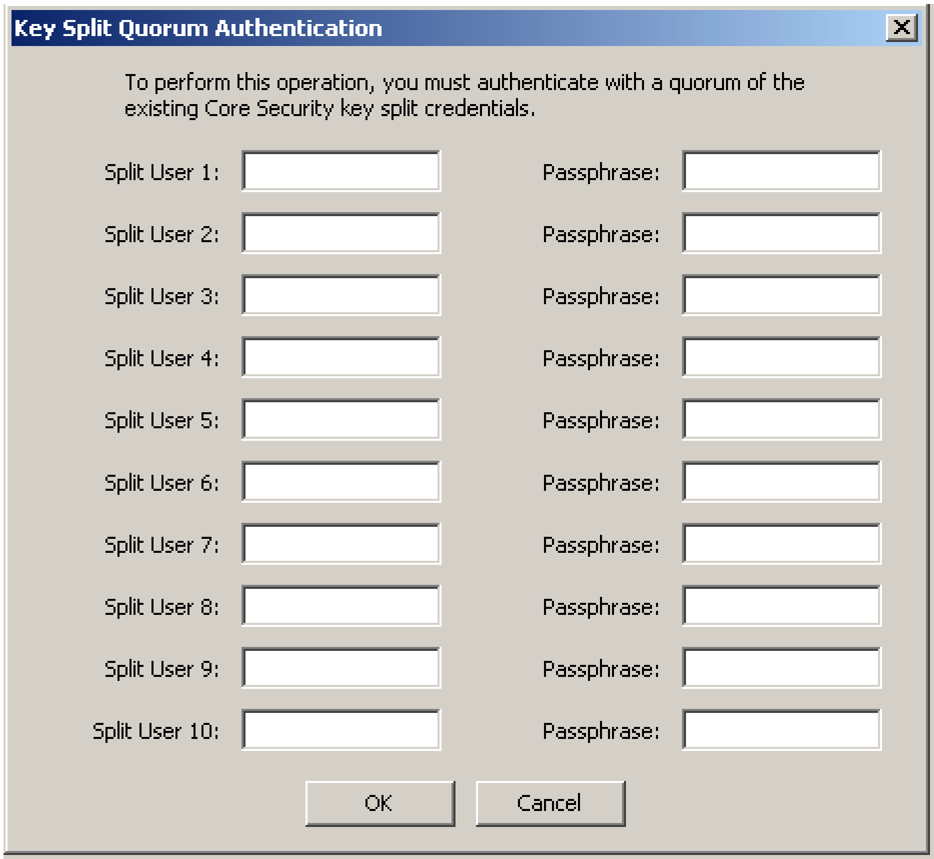
2. Depending on the current autonomous boot status, choose the Enable Autonomous Unlock to enable this option or choose the Disable Autonomous Unlock to disable the option.

Note –

• The Lock/Unlock button toggles between states and sets the KMA locked state opposite to the current state.

• You must provide a quorum to enable or disable the Autonomous Unlock Option.

3. The Key Split Quorum Authentication dialog box is displayed. The quorum must type their user names and passphrases to authenticate the operation.



Key Split Quorum Authentication

To perform this operation, you must authenticate with a quorum of the existing Core Security key split credentials.

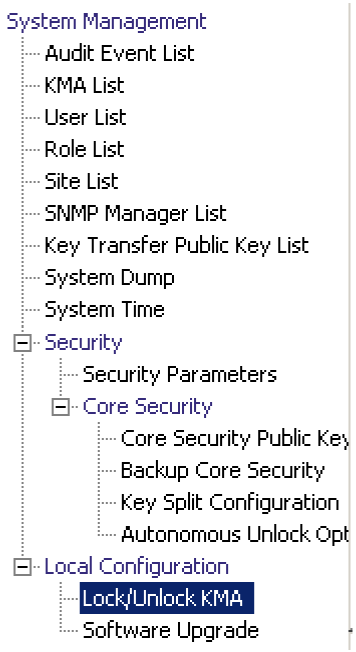
4. Choosing the OK button after the last user name and passphrase is entered, sends the user names and passphrases to the KMA for authentication.

5. If the authentication is successful, the Key Split Quorum Authentication dialog box closes and the new autonomous boot option is set for the KMA.

Local Configuration Menu

The Local Configuration menu includes the following options:

- Lock/Unlock the KMA
- Upgrade the software.



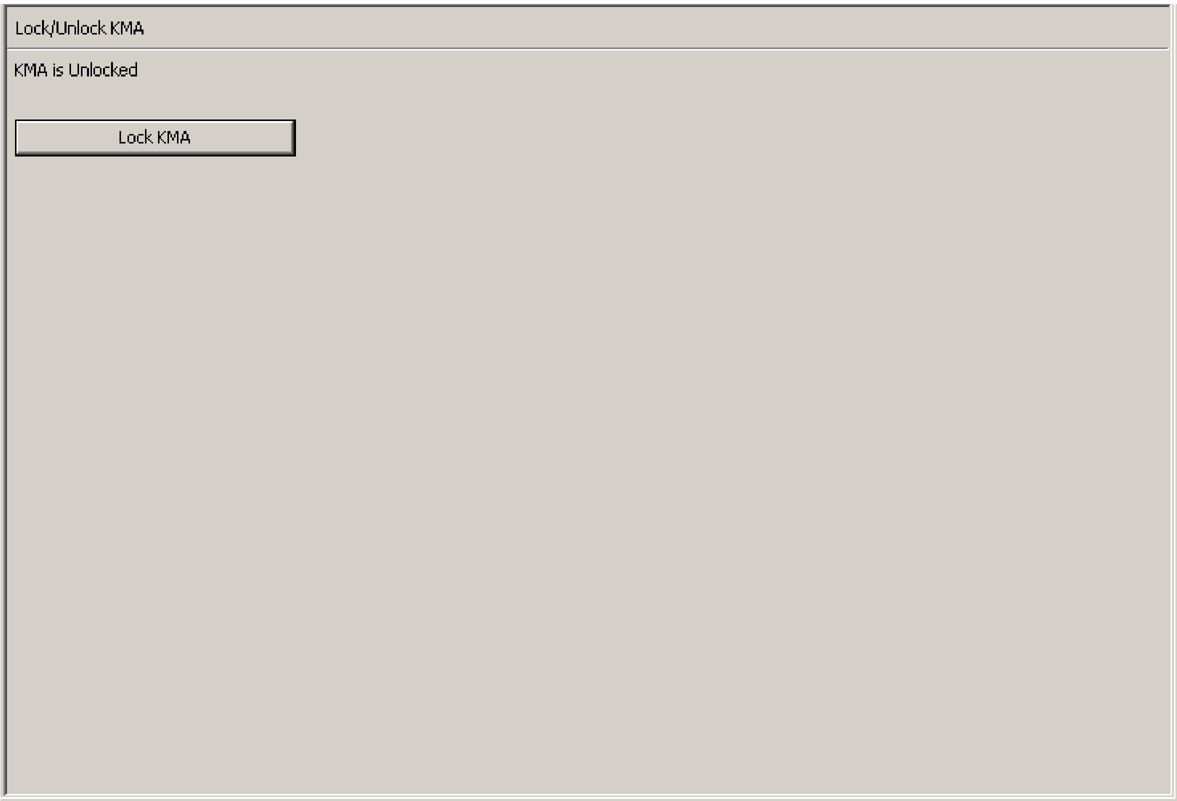
Lock/Unlock KMA

The Lock/Unlock KMA menu option gives the Security Officer the ability to lock and unlock the KMA's Core Security. Please see "Core Security" on page 159 for details on Core Security and the behavior of the KMA when Core Security is locked and unlocked.

Locking the KMA

To lock the KMA:

1. From the Local Configuration menu, select Lock/Unlock KMA. The Lock/Unlock KMA screen is displayed, indicating the state of the KMA. In this example, it is "Unlocked."



Lock/Unlock KMA

KMA is Unlocked

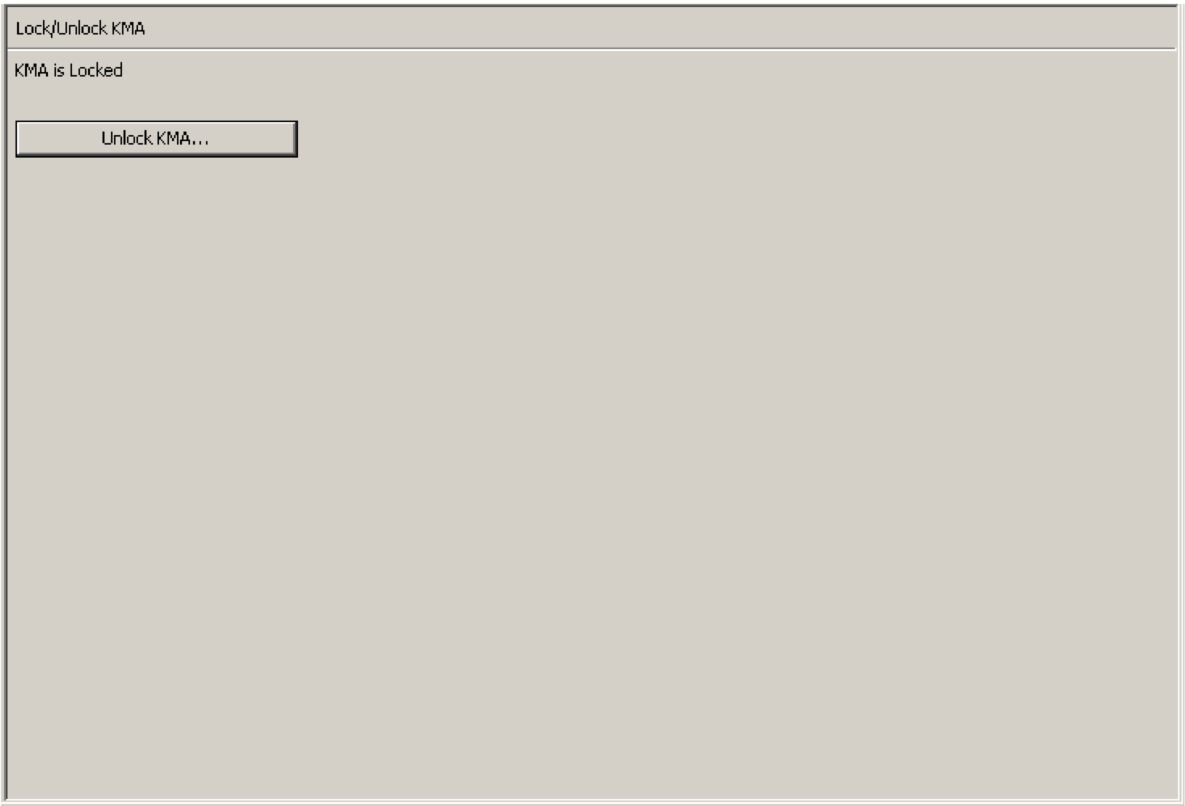
2. Choose the Lock KMA button to lock the KMA. Once the button is pressed, it changes to Unlock KMA, indicating the new lock state and the allowed operation. The KMA is now locked.

Note – The Lock KMA/Unlock KMA button toggles between states and sets the KMA locked state opposite to the current state. Once a button is pressed, the text label and button label change to indicate the new lock state and the allowed operation.

Unlocking the KMA

To unlock the KMA:

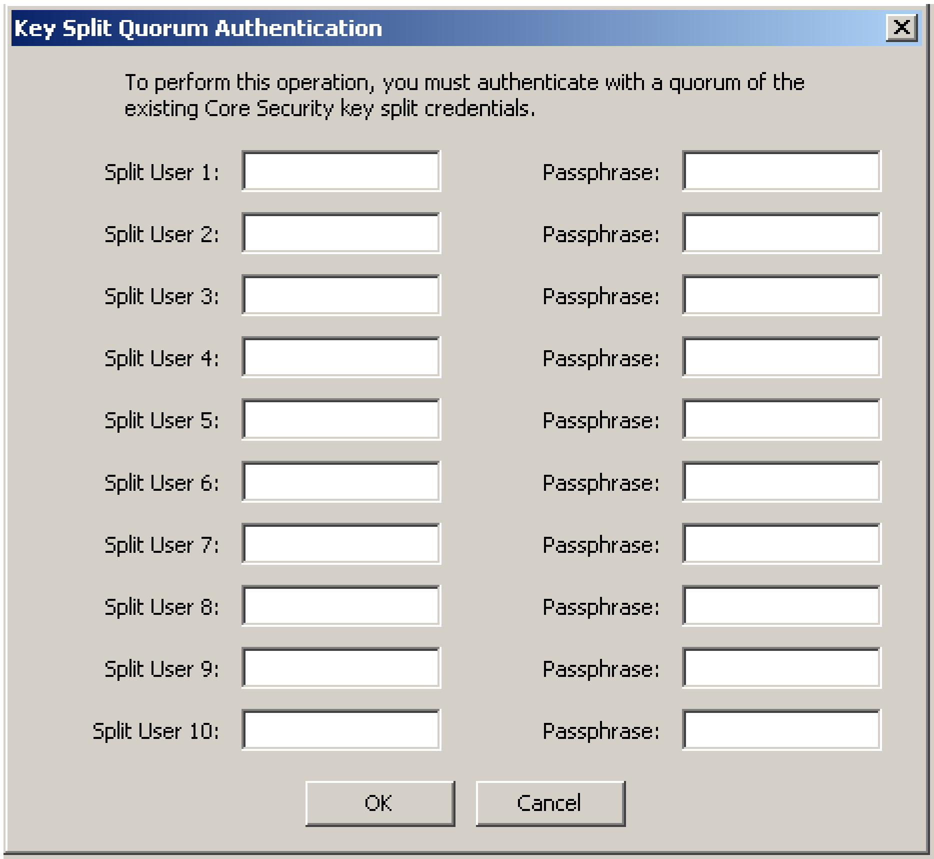
1. From the Lock/Unlock KMA screen choose the Unlock KMA button.



Lock/Unlock KMA

KMA is Locked

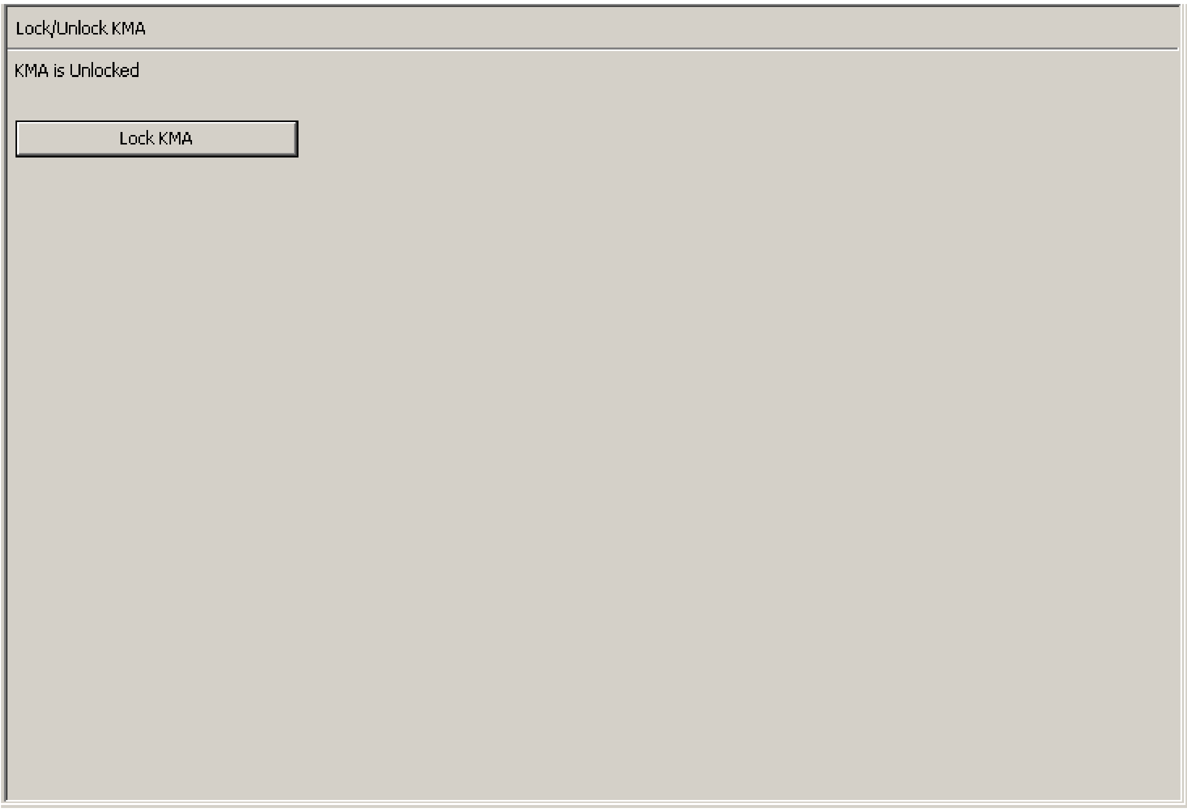
2. The Key Split Quorum Authentication dialog box is displayed. The quorum must type their user names and passphrases to authenticate the operation.



To perform this operation, you must authenticate with a quorum of the existing Core Security key split credentials.

3. Choose the OK button after the last user name and passphrase is entered. The user names and passphrases are sent to the KMA for authentication.

4. If the authentication is successful, the Key Split Quorum Authentication dialog box closes and the KMA is unlocked.



Lock/Unlock KMA

KMA is Unlocked

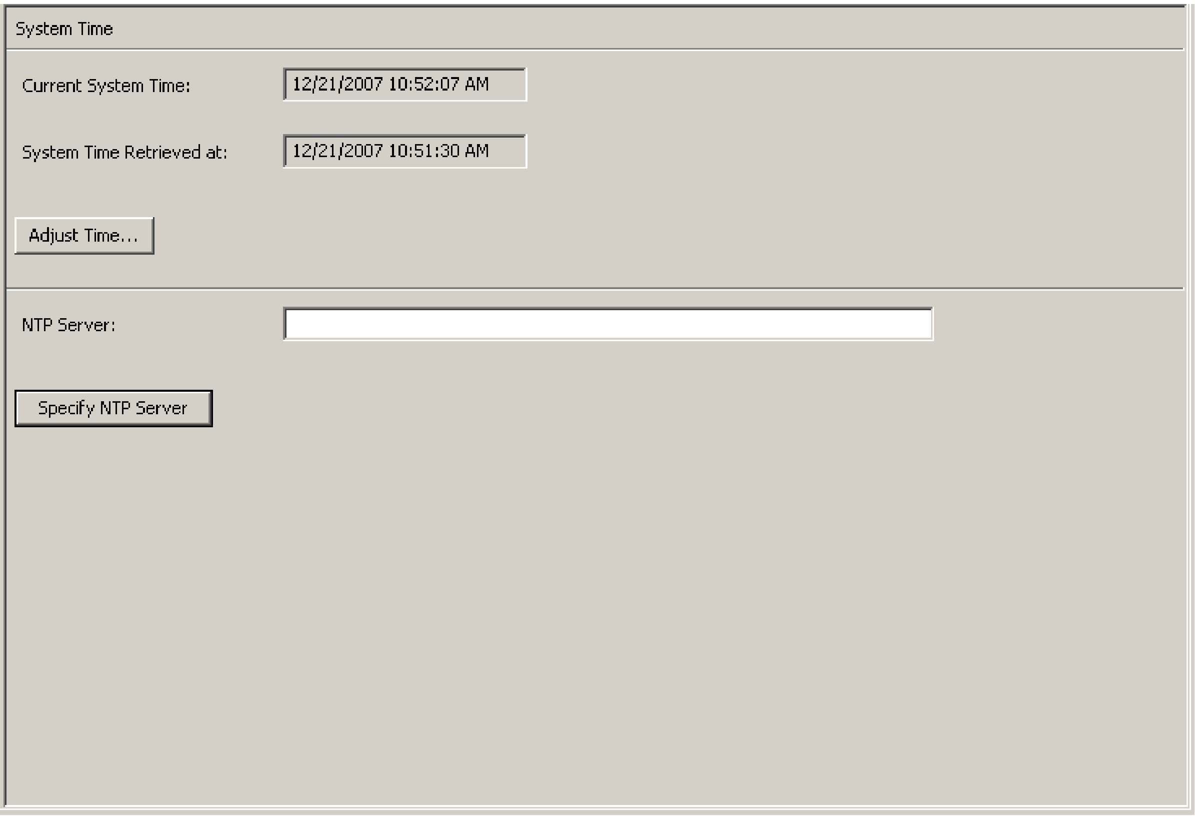
System Time Menu

The System Time menu option gives the user the ability to set the system clock to which the user is connected. To ensure the correct operation of the KMS solution, it is very important to maintain the times reported by each KMA in a Cluster within five minutes of each other.

Retrieving the Local Clock Information

To retrieve the local clock information:

From the System Management menu, select **System Time**. The System Time screen is displayed.



System Time

Current System Time: 12/21/2007 10:52:07 AM

System Time Retrieved at: 12/21/2007 10:51:30 AM

NTP Server:

The fields and their descriptions are given below:

Current System Time

Displays the current system time.

System Time Retrieved At

Displays the local Client time when the KMA's system time was retrieved.

Adjust Time

Click this button to modify the system time.

If you want to modify the KMA's clock, choose the Adjust Time button. For more information, refer to "Adjusting the KMA's Local Clock" below.

NTP Server

Displays the NTP server that this KMA uses (if any).

Specify NTP Server

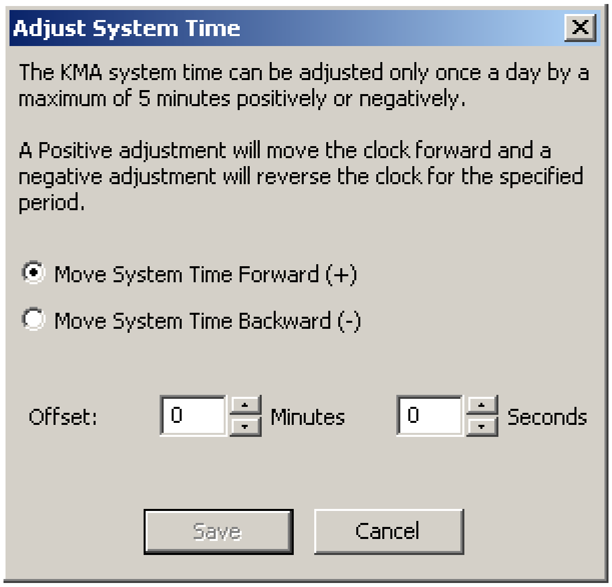
Click this button to specify the NTP server to be used by this KMA.

Adjusting the KMA's Local Clock

You can only adjust a KMA's clock once a day by a maximum of plus or minus 5 minutes. A positive (+) adjustment slowly moves the clock forward, whereas a negative (-) slowly moves the clock backward.

To adjust the KMA's local time:

1. From the System Time menu, choose the Adjust Time button. The Adjust System Time dialog box is displayed.



Adjust System Time

The KMA system time can be adjusted only once a day by a maximum of 5 minutes positively or negatively.

A Positive adjustment will move the clock forward and a negative adjustment will reverse the clock for the specified period.

● Move System Time Forward (+)

○ Move System Time Backward (-)

Offset: 0 Minutes 0 Seconds

2. Select the "Move System Time Forward (+)" radio button if you want to apply a positive adjustment to the clock. Otherwise, select the "Move System Time Backward (-)" radio button if you want to apply a negative adjustment to the clock.
3. In the Offset Minutes text box, select a numeric value.
4. In the Offset Seconds text box, select a numeric value.

Note – If the specified offset is too large, an Error message is displayed, prompting you to type a smaller value. Choose the OK button to close this dialog box and type a new value.

---

5. Choose the Save button to accept the changes. The System clock is adjusted.

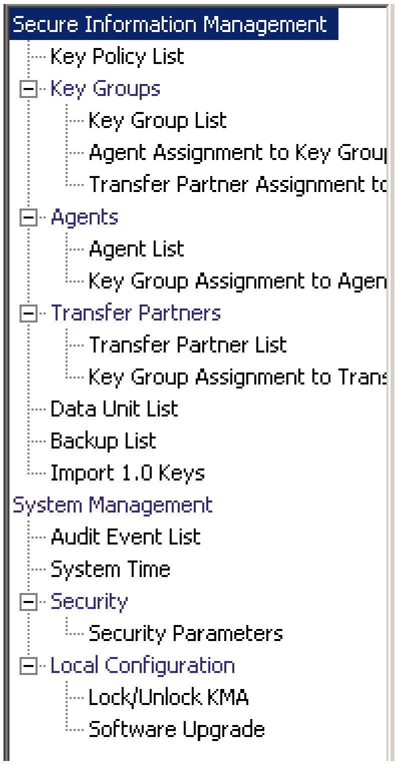
CHAPTER 6

Compliance Officer Operations

This chapter describes the operations that a user who has been given a Compliance Officer role can perform. If you have been assigned multiple roles, refer to the appropriate chapter for instructions on performing the specific role.

Compliance Officer Role

The Compliance Officer manages the flow of data through your organization and has the ability to define and deploy data contexts (Key Groups) and rules that determine how data is protected and ultimately destroyed (Key Policies). The menus that provide these functions are shown below.



Key Policies

Key Policies provide guidance for managing data. The KMS Manager uses Key Policies to determine how data is protected and destroyed. Key Policies must be created before keys can be created and delivered to agents.

Only a Compliance Officer can create and modify Key Policies. This ensures that the data complies with a policy throughout the data's lifetime.

Key Policy List Menu

The Key Policies List menu allows you to manage the Key Policies in your organizations.

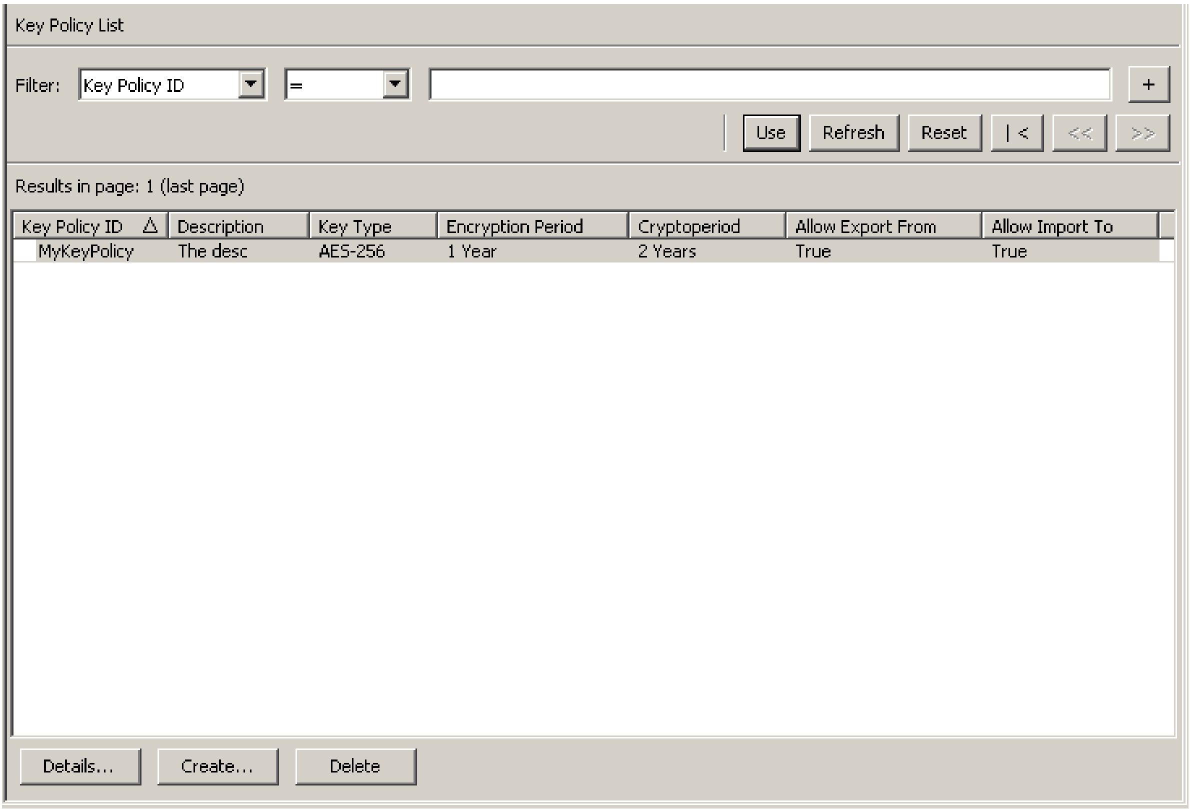
The Key Policy List menu option gives you the ability to:

- View Key Policies
- View/Modify a Key Policy's Details
- Create a Key Policy
- Delete existing Key Policies.

Viewing Key Policies

To view Key Policies:

1. From the Secure Information Management menu, select **Key Policy List**. The Key Policy List screen is displayed.



Results in page: 1 (last page)

Key Policy ID	Description	Key Type	Encryption Period	Cryptoperiod	Allow Export From	Allow Import To
MyKeyPolicy	The desc	AES-256	1 Year	2 Years	True	True

You can also scroll through the database and filter the Key Policy list by any of the following keys:

- Key Policy ID
- Description
- Key Type
- Encryption Period
- Cryptoperiod
- Allow Export From
- Allow Import To.

The **Use** button applies the filter to the displayed list for the Key Policy.

The fields and their descriptions are given below:

Filter:

Displays the fields that you can use to filter the results of queries made to the KMA. Possible values are:

- Key Policy ID
- Description
- Key Type
- Encryption Period
- Cryptoperiod
- Allow Export From
- Allow Import To

Filter Operator box:

Click the down-arrow and select the filter operation you want. Possible values are:

- Equals =
- Not equal <>
- Greater than >
- Less than <
- Greater than or equals >=
- Less than or equals <=
- Starts with ~
- Empty
- Not empty

Filter Value text box:

Type a value to filter the selected attribute by. This filter option is not displayed for all filter attributes.

Filter Value combo box:

Click the down-arrow and select a value to filter the selected attribute by. This filter option is not displayed for all filter attributes.

+ Click this button to add additional filters.

− Click this button to remove a filter. This button is only displayed if there is more than one filter shown.

Use:

Click this button to apply the selected filters to the displayed list and go to the first page.

Refresh:

Click this button to refresh the list.

Reset:

Click this button to remove all filters and reset the displayed list to the first page.

|<

Click this button to go to the first page of the list.

<<

Click this button to go to the previous page.

»

Click this button to go to the next page.

Results in Page:

Displays the number of records per page that were configured in the Query Page Size field in the Options dialog box.

Key Policy ID

Displays the unique identifier that distinguishes each Key Policy. This value can be between 1 and 64 (inclusive) characters. Key Policy IDs cannot be changed once they are created.

Description

Describes the Key Policy. This value can be between 1 and 64 (inclusive) characters.

Key Type

Indicates the type of encryption algorithm that Keys associated with this Key Policy use. Possible values are: AES-256 .

Note – Encryption Period and Cryptoperiod begin when the key is first given to an Agent. Encryption period and Cryptoperiod cannot be changed for a policy. This is to avoid a change in the Key Policy from affecting large numbers of keys.

Encryption Period

Displays how long keys associated with this Key Policy can be used to encrypt or decrypt data. The time interval units are: minutes, hours, days, week, months, or years.

Cryptoperiod

Displays how long keys associated with this Key Policy can be used to decrypt (but not encrypt) data. The time interval units are: minutes, hours, days, week, months, or years.

Allow Export From

Indicates whether Data Units associated with this Key Policy can be exported. Possible values are True or False.

Allow Import To

Indicates whether Data Units associated with this Key Policy can be imported. Possible values are True or False.

If you want to create a Key Policy, choose the Create button. For more information, refer to "Creating a Key Policy" on page 182.

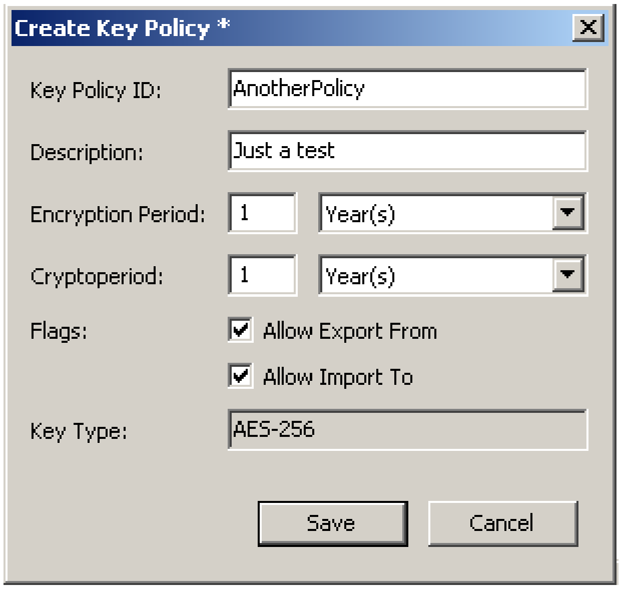
If you want to view / modify a Key Policy, highlight the Key Policy and choose the Details button. For more information, refer to "Viewing/Modifying a Key Policy" on page 184.

If you want to delete a Key Policy, choose the Delete button. For more information, refer to "Deleting a Key Policy" on page 185.

Creating a Key Policy

To create a Key Policy:

1. From the Key Policy List screen, choose the Create button. The Create Key Policy screen is displayed.



Create Key Policy *

Key Policy ID: AnotherPolicy

Description: Just a test

Encryption Period: 1 Year(s)

Cryptoperiod: 1 Year(s)

Flags: ☑ Allow Export From

☑ Allow Import To

Key Type: AES-256

2. Complete the following parameters:

Key Policy ID

Type a value that identifies the policy. This value can be between 1 and 64 (inclusive) characters.

Description

Type a value that describes the policy. This value can be between 1 and 64 (inclusive) characters. This field can be blank.

Encryption Period

Displays how long keys associated with this Key Policy can be used to encrypt or decrypt data. The time interval units are: minutes, hours, days, week, months, or years.

Cryptoperiod

Displays how long keys associated with this Key Policy can be used to decrypt (but not encrypt) data. The time interval units are: minutes, hours, days, week, months, or years.

Flags

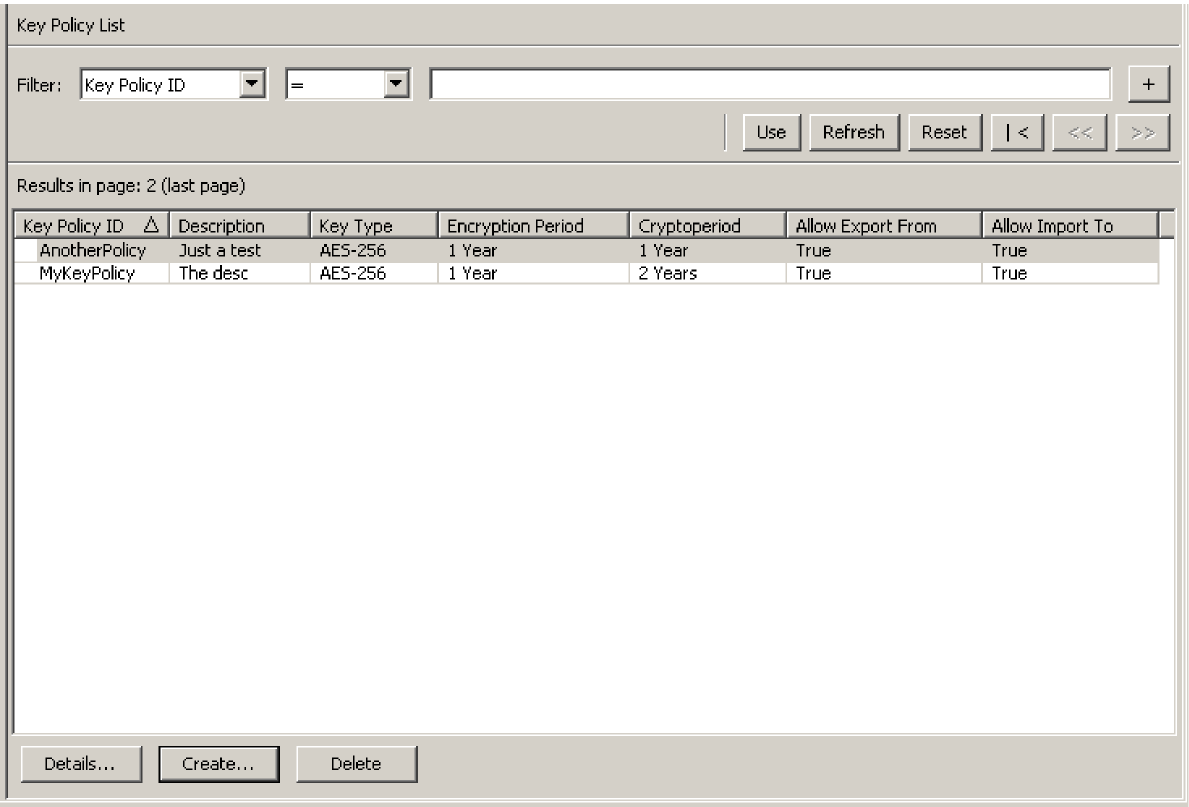
Allow Export From

Indicates whether Data Units associated with this Key Policy can be exported. Possible values are True or False.

Allow Import To

Indicates whether Data Units associated with this Key Policy can be exported. Possible values are True or False.

3. Choose the Save button to save the Key Policy. The new Key Policy is displayed in the Key Policy List screen. It can now be used by Key Groups.



Results in page: 2 (last page)

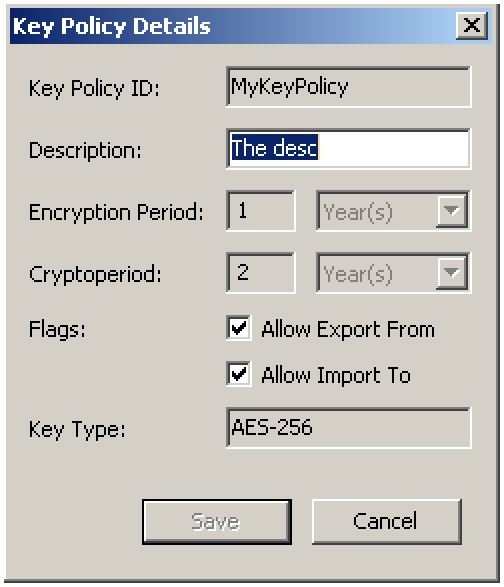
Key Policy ID △	Description	Key Type	Encryption Period	Cryptoperiod	Allow Export From	Allow Import To
AnotherPolicy	Just a test	AES-256	1 Year	1 Year	True	True
MyKeyPolicy	The desc	AES-256	1 Year	2 Years	True	True

Viewing/Modifying a Key Policy

Note – Only a Compliance Officer can view a Key Policy's detailed information.

To modify a Key Policy's details:

1. From the Key Policy List screen, double-click a Key Policy for which you want more information or highlight a Key Policy and choose the Details button. The Key Policy Details screen is displayed.



Key Policy ID: MyKeyPolicy

Description: The desc

Encryption Period: 1 Year(s)

Cryptoperiod: 2 Year(s)

Flags: ☑ Allow Export From

☑ Allow Import To

Key Type: AES-256

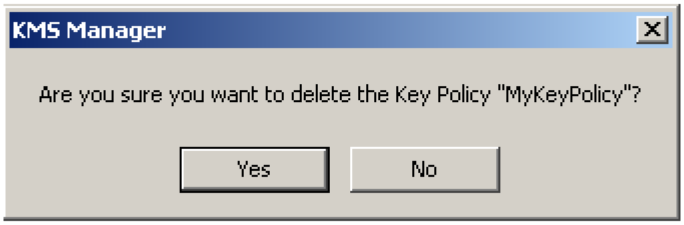
2. You can change the `Description`, `Allow Export From`, and `Allow Import To` fields, as required. When you are finished, choose the Save button to save the changes. After the system verifies and validates the new Key Policy, the Key Group is associated with the new Key Policy.
3. If you choose the Cancel button, your changes will not be saved and the dialog box will close.

Deleting a Key Policy

A key policy can only be deleted if it is not used by any Key Group or key.

To delete a Key Policy:

1. From the Key Policy List screen, highlight the Key Policy you want to delete and choose the Delete button. The following dialog box is displayed, prompting you to confirm that you want to delete the specific Key Policy.



Are you sure you want to delete the Key Policy "MyKeyPolicy"?

2. Choose the Yes button to delete the Key Policy. The Key Policy is removed from the database. You are returned to the Key Policy List screen, where the Key Policy is removed from the list.

Key Groups

A Key Group represents a data context that determines the Key Policy to which it applies and the Agents that can access it. When a Key is assigned to an agent and is first used for a Data Unit, it is associated with a Key Group. When you create a Key Group, you must select a Key Policy. The selected Key Policy is applied to Keys in that Key Group.

Agents are associated with Key Groups. An Agent has one or more keys groups that it is allowed to access. An Agent can only retrieve keys belonging to Key Groups it is allowed to access. An Agent may also have a default key group. When an agent allocates a new key, the key is placed in the agents default key group. An agent can only allocate new keys if it has a default key group.

FIGURE 6-1 on page 187 shows the relationship between Key Groups, Key Polices, Agents, and Data Units.

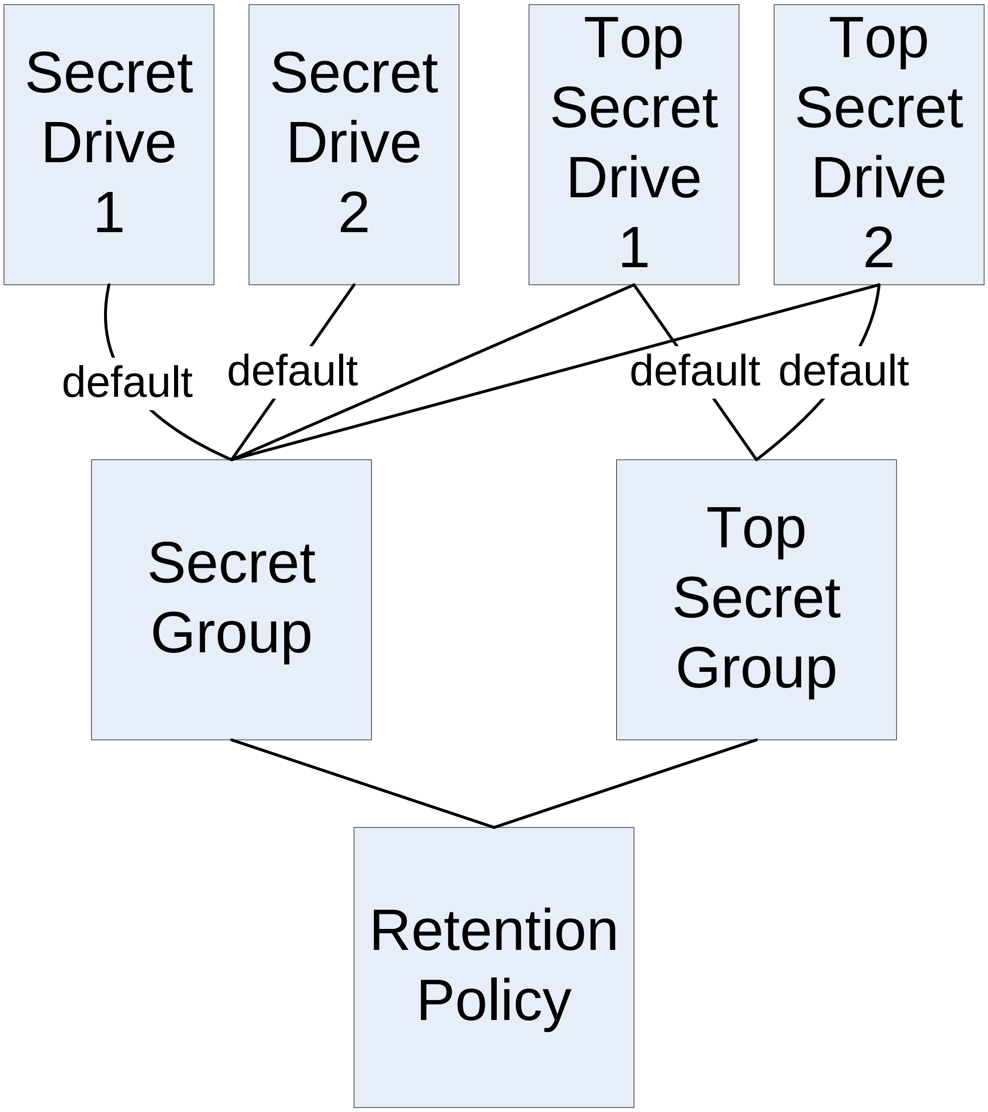
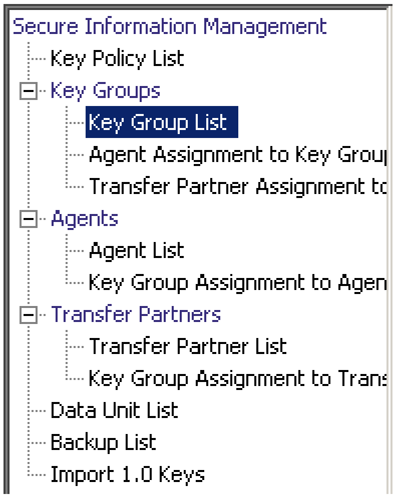


FIGURE 6-1 Key Group Relationship with Key Policies, Agents, Data Units

Key Groups Menu

The Key Groups menu includes the Key Group List menu option, which allows the Compliance Officer to manage Key Groups.


Secure Information Management
Key Policy List
Key Groups
Key Group List
Agent Assignment to Key Grou
Transfer Partner Assignment to
Agents
Agent List
Key Group Assignment to Agen
Transfer Partners
Transfer Partner List
Key Group Assignment to Trans
Data Unit List
Backup List
Import 1.0 Keys

Key Group List Menu

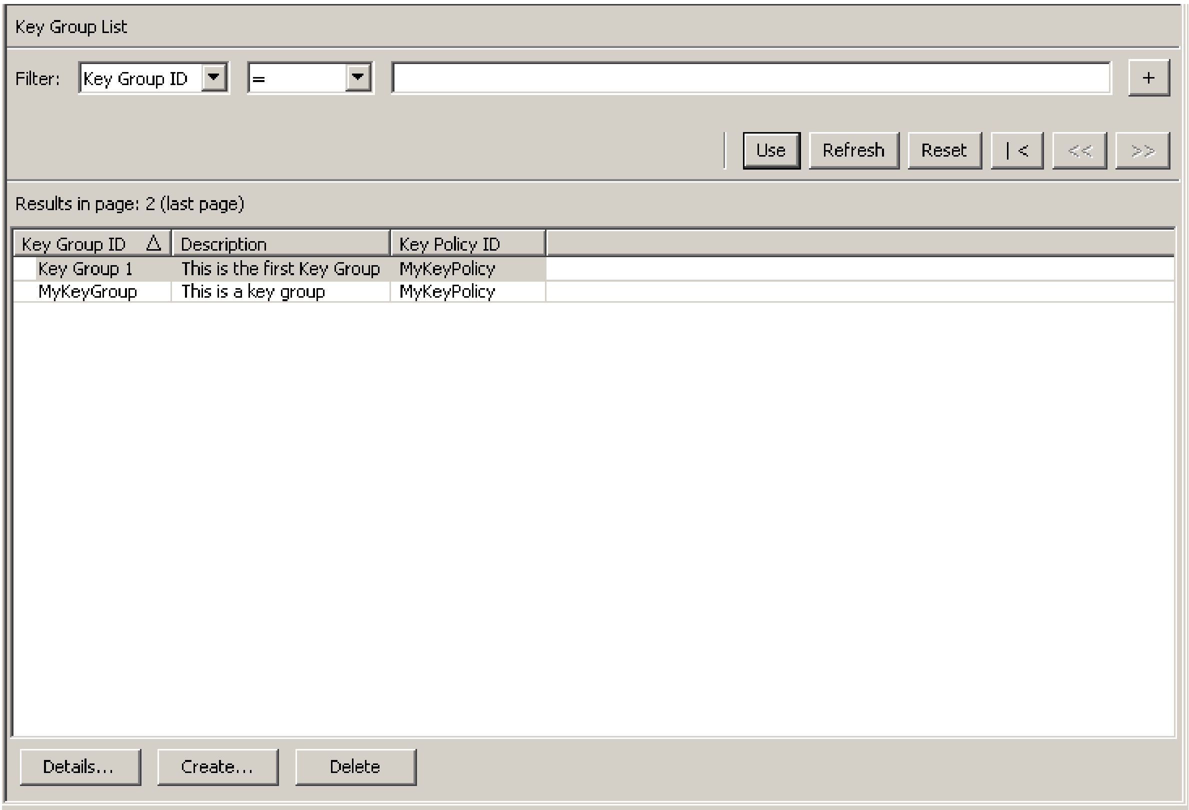
The Key Group List menu option gives the user the ability to:

- View Key Groups
- Create a Key Group
- Modify existing Key Groups
- Delete existing Key Groups

Viewing Key Groups

To view all Key Groups:

1. From the Key Groups menu, select **Key Group List**. The Key Group List screen is displayed.



Key Group List

Filter: Key Group ID =

Results in page: 2 (last page)

Key Group ID △	Description	Key Policy ID
Key Group 1	This is the first Key Group	MyKeyPolicy
MyKeyGroup	This is a key group	MyKeyPolicy

You can scroll through the database and filter through the Key Group list by any of the following keys:

- Key Group ID
- Description
- Key Policy ID.

The Use button applies the filter to the displayed list for the Key Group.

The fields and their descriptions are given below:

Filter:

Select filter options to filter the displayed list of Key Groups. Only Key Groups that satisfy all filters will be displayed.

Filter Attribute combo box:

Click the down-arrow and select an attribute to filter by. Possible values are:

- Key Group ID
- Description
- Key Policy ID.

Filter Operator box:

Click the down-arrow and select the filter operation to apply to the selected attribute. Possible values are:

- Equals =
- Not equal <>;
- Greater than >
- Less than <
- Greater than or equals >=
- Less than or equals <=
- Starts with ~
- Empty
- Not empty.

Filter Value text box:

Type a value to filter the selected attribute by.

Filter Value combo box:

Click the down-arrow and select a value to filter the selected attribute by. This filter option is not displayed for all filter attributes.

⊞ Click this button to add additional filters.

⊟ Click this button to remove a filter. This button is only displayed if there is more than one filter shown.

Use:

Click this button to apply the selected filters to the displayed list and go to the first page.

Refresh:

Click this button to refresh the displayed list. This does not apply filters selected since the last Use or Reset, and does not change the page of the list.

Reset:

Click this button to remove all filters and reset the displayed list to the first page.

|<

Click this button to go to the first page of the list.

<<

Click this button to go to the previous page.

>>

Click this button to go to the next page.

Results in Page:

Displays the number of items that can be displayed on the current page. Appends "(last page)" to the number of items if you are at the end of the list. The maximum number of items displayed on a page is defined by the Query Page Size value on the Options dialog.

Key Group ID

Displays the unique identifier that distinguishes each Key Group. This value can be between 1 and 64 (inclusive) characters. The Key Group ID cannot be changed once it is defined.

Description

Describes the Key Group. This value can be between 1 and 64 (inclusive) characters.

Key Policy ID

Displays a unique identifier for an existing Key Policy that applies for every Data Unit in the Key Group.

The Key Policy ID for an existing Key Group cannot be changed. This is to avoid a change affecting a large number of keys.

If you want to create a Key Group, choose the Create button. For more information, refer to "Creating a Key Group" on page 192.

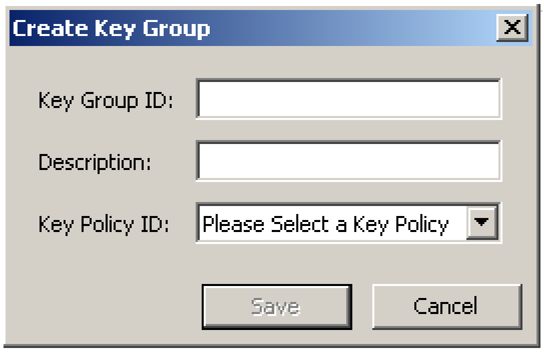
If you want to view/modify a Key Group, highlight the Key Group and choose the Details button. For more information, refer to "Viewing/Modifying a Key Group's Details" on page 194.

If you want to delete a Key Group, choose the Delete button. For more information, refer to "Deleting a Key Group" on page 195.

Creating a Key Group

To create a new Key Group:

1. From the Key Group List screen, choose the Create button. The Create Key Group screen is displayed.



2. Complete the following parameters:

Key Group ID

Type a value that identifies the Key Group. This value can be between 1 and 64 (inclusive) characters.

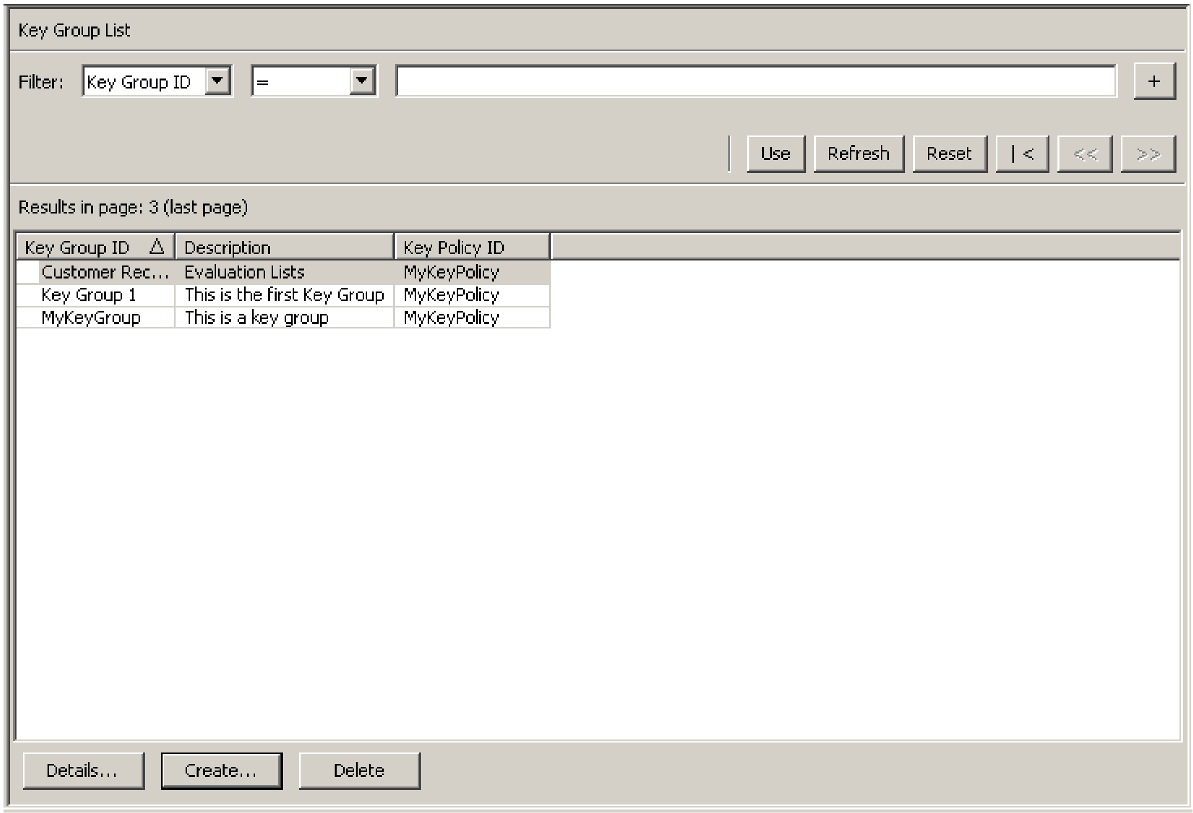
Description

Type a value that describes the Key Group. This value can be between 1 and 64 (inclusive) characters.

Key Policy ID

Click the down-arrow and select the Key Policy with which you want to associate this Key Group. When creating a new Key Group, existing Key Policies are displayed.

3. Choose the Save button. The new Key Group is created and saved in the database and is displayed in the Key Group List screen. It can now be used by Data Units, Agents, etc.



Filter: Key Group ID =

Results in page: 3 (last page)

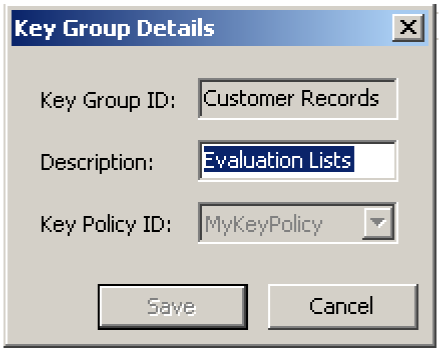
Key Group ID △	Description	Key Policy ID
Customer Rec...	Evaluation Lists	MyKeyPolicy
Key Group 1	This is the first Key Group	MyKeyPolicy
MyKeyGroup	This is a key group	MyKeyPolicy

Viewing/Modifying a Key Group's Details

Note – If you are not a Compliance Officer, when you view a Key Group's detailed information, all fields, including the Save button are disabled.

To modify a Key Group:

1. From the Key Group List screen, double-click a Key Group entry for which you want more information or highlight a Key Group entry and choose the Details button. The Key Group Details screen is displayed.



Key Group Details

Key Group ID: Customer Records

Description: Evaluation Lists

Key Policy ID: MyKeyPolicy

The following parameters are displayed:

Key Group ID:

Uniquely identifies the Key Group. This field is read-only.

Description:

Type a value that describes the Key Group. This value can be between 1 and 64 (inclusive) characters. This field can be blank.

Key Policy ID:

Displays a unique identifier for an existing Key Policy that is associated with the Key Group and all the Keys in the Key Group. This field is read-only.

2. The Description field is the only field that can be modified. When you are finished, choose the Save button to save the changes. You are returned to the Key Group List screen.

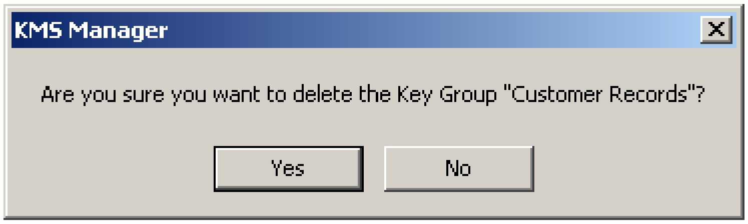
Deleting a Key Group

Note – You cannot delete a Key Group if it is active, that is, to which Agents or Data Units are assigned.

To delete a Key Group:

1. From the Key Groups List screen, highlight the Key Group you want to delete and choose the Delete button.The following Confirmation dialog box is displayed, prompting you to confirm that you want to delete the selected Key Group.

   A Key Group can only be deleted if it is not used by any key and is not associated with any Agent.



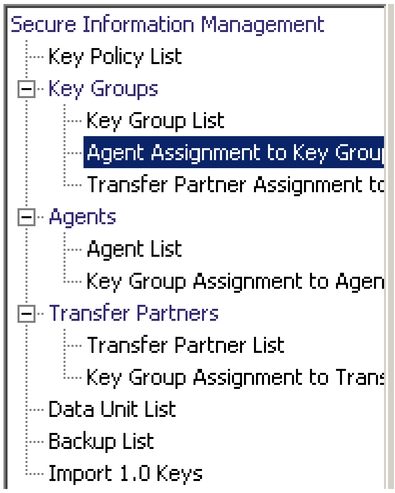
Are you sure you want to delete the Key Group "Customer Records"?

2. Choose the Yes button to delete the Key Group. The Key Group and its associated entries are deleted from the database. You are returned to the Key Groups List screen, where the Key Group is no longer listed.

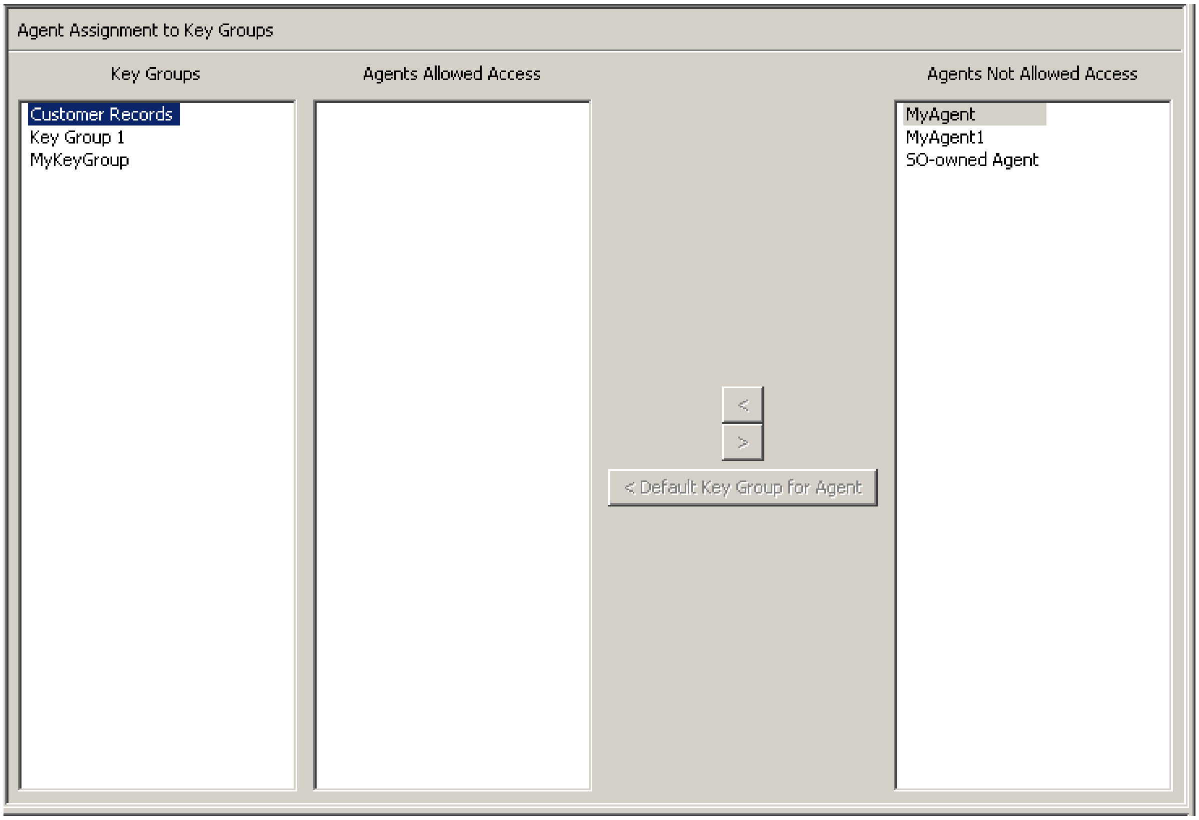
Agent Assignment to Key Groups Menu

The Agent Assignment to Key Groups menu option gives the user the ability to assign Agents to Key Groups. When you assign Agents to Key Groups, it determines the storage devices that the Agent can access. It is the converse of the Key Group Assignment menu option under the Agents menu, both accomplishing the same result.

Important – You must set a default Key Group for an Agent before that Agent can allocate keys.


Secure Information Management
Key Policy List
Key Groups
Key Group List
Agent Assignment to Key Grou
Transfer Partner Assignment to
Agents
Agent List
Key Group Assignment to Agen
Transfer Partners
Transfer Partner List
Key Group Assignment to Trans
Data Unit List
Backup List
Import 1.0 Keys

To view Agents assignments, from the Key Groups menu, select Agent Assignment to Key Groups. The Agent Assignment to Key Groups screen is displayed.

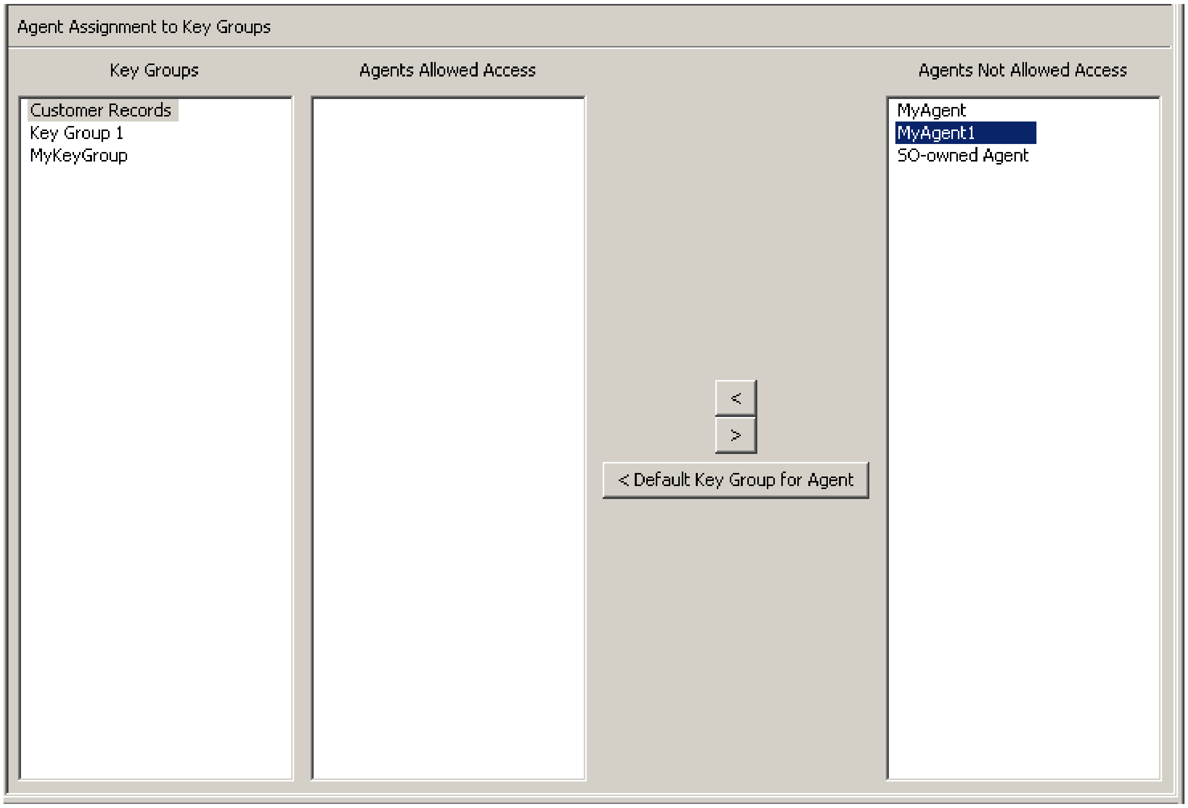


The Key Groups column lists the Key Groups. The Agents Allowed Access column lists the Agents that are assigned to the selected Key Group(s). The Agents Not Allowed Access column lists the Agents that are not assigned to the selected Key Group(s).

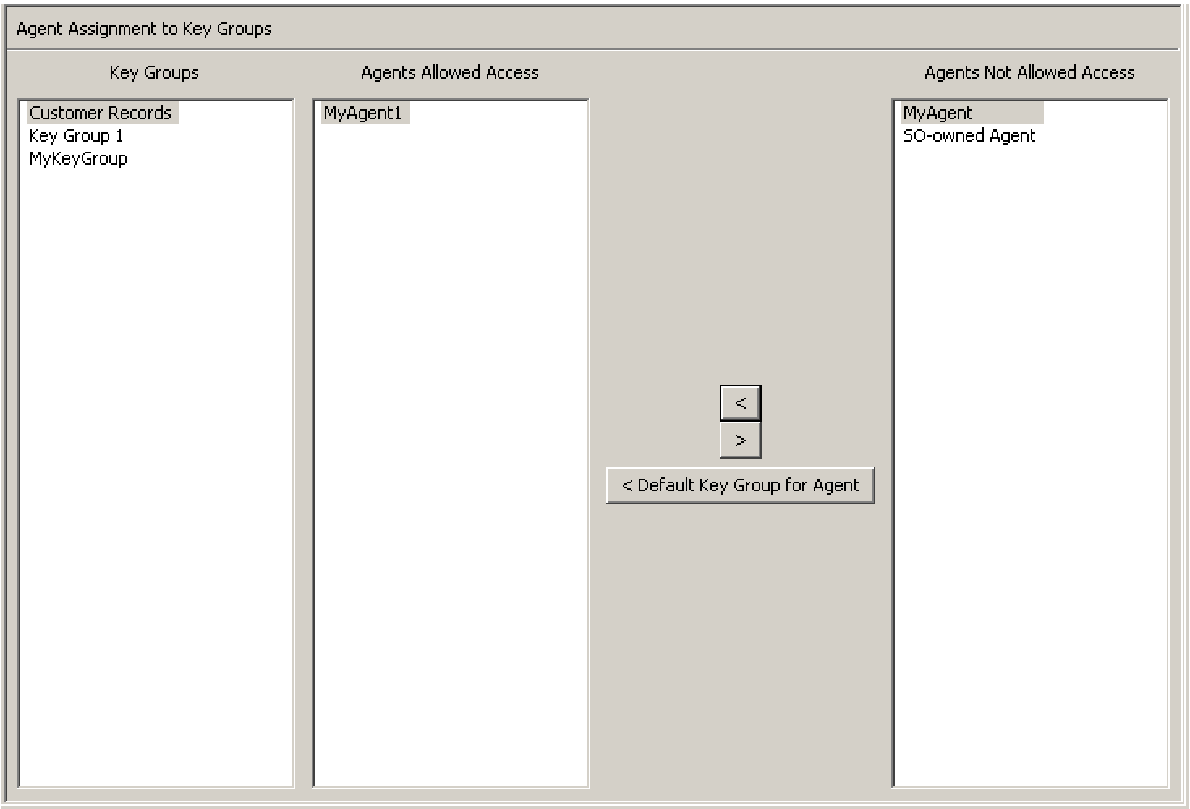
Assigning an Agent to a Key Group

To assign an Agent to a Key Group:

1. In the Key Groups column, highlight the Key Group you want. In the Agents Not Allowed Access column, highlight the Agent you want to add and choose the Move to < button.



2. The selected Agent is moved to the Agents Allowed Access column, indicating that the Agent is successfully added to the selected Key Group's Agent list.



To assign Agents to a Key Group and set the Default Key Group:

1. From the Agent Assignment to Key Groups screen, select the Key Group you want in the Key Groups list.
2. In the Agents Not Allowed Access list, select one or more Agents you want to add and set the Default Key Group for.
3. Click the Default Key Group for Agent button. The selected Agents are moved to the Agents Allowed Access list and their Default Key Group is set to the Key Group. The Agents are now allowed access to the Key Group.

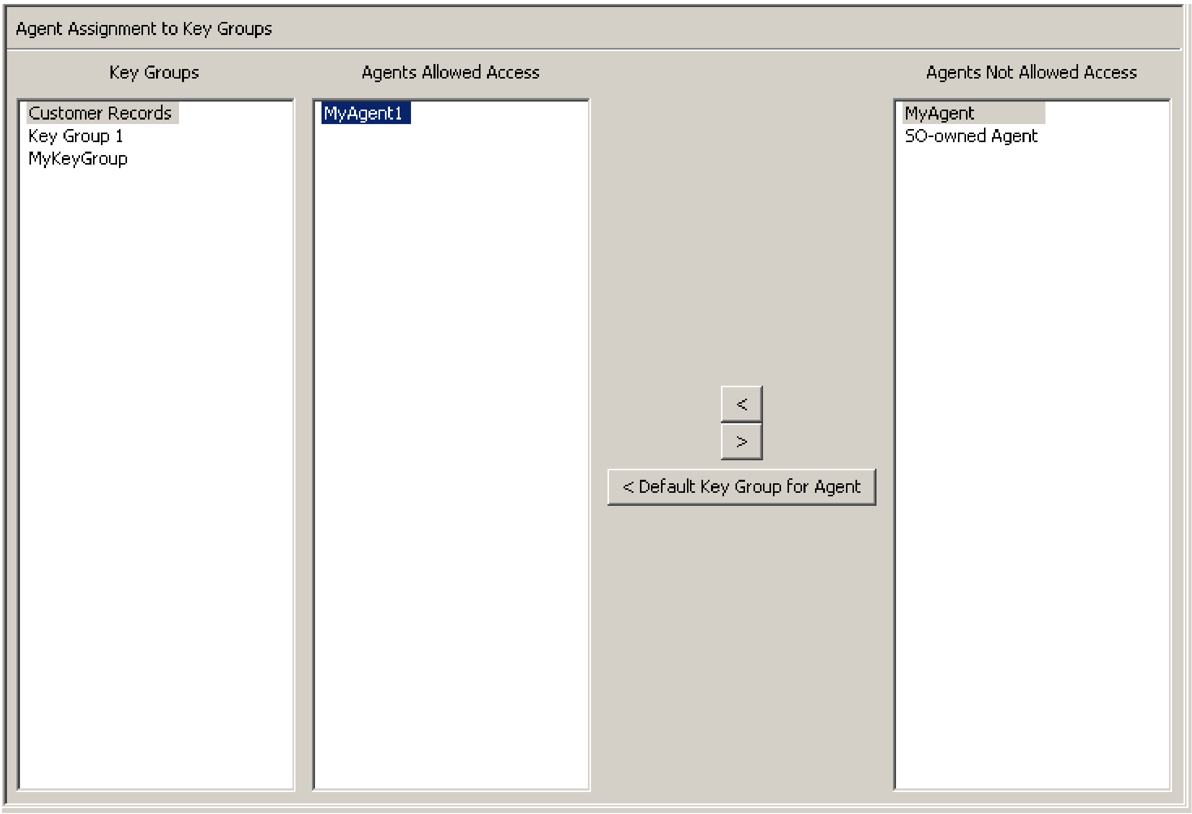
To set the Default Key Group for already assigned Agents:

1. From the Agent Assignment to Key Groups screen, select the Key Group you want in the Key Groups list.
2. In the Agents Allowed Access list, select one or more Agents that do not have the selected Key Group as their Default Key Group.
3. Click the Default Key Group for Agent button. The selected Agents' Default Key Group is set to the Key Group.

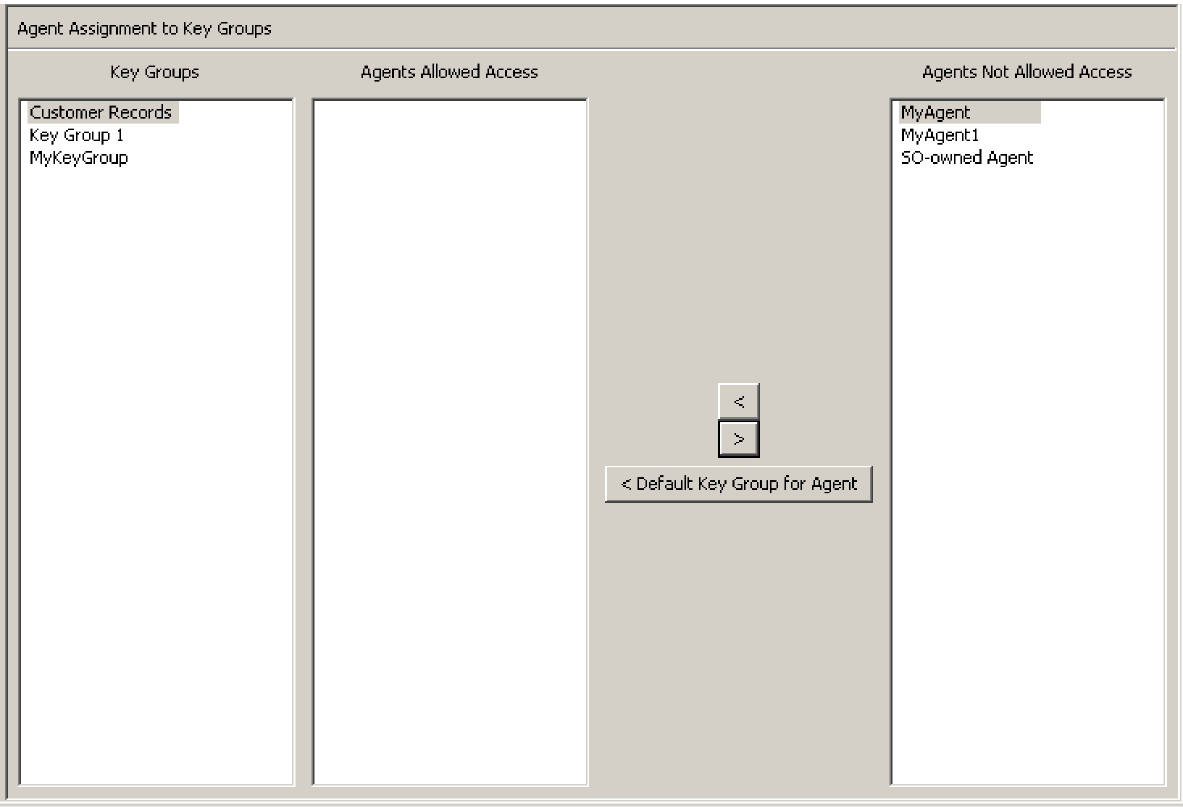
Removing an Agent from a Key Group

To remove an Agent from a Key Group’s Agent list:

1. In the Key Groups column, highlight the Key Group you want. In the Agents Allowed Access column, highlight the Agent you want to remove, and choose the Move from > button.



2. The selected entry is removed from the Agents Allowed Access column and is listed in the Agents Not Allowed Access column. It is no longer assigned to the selected Key Group.



Agent Assignment to Key Groups

Key Groups

- Customer Records
- Key Group 1
- MyKeyGroup

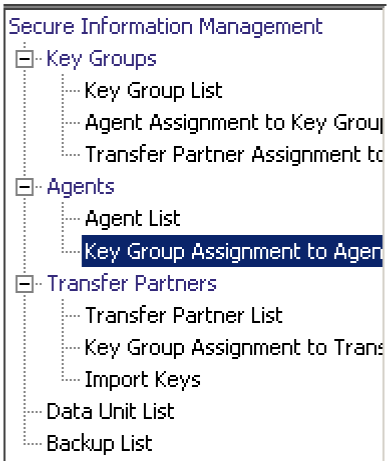
Agents Allowed Access

Agents Not Allowed Access

- MyAgent
- MyAgent1
- SO-owned Agent

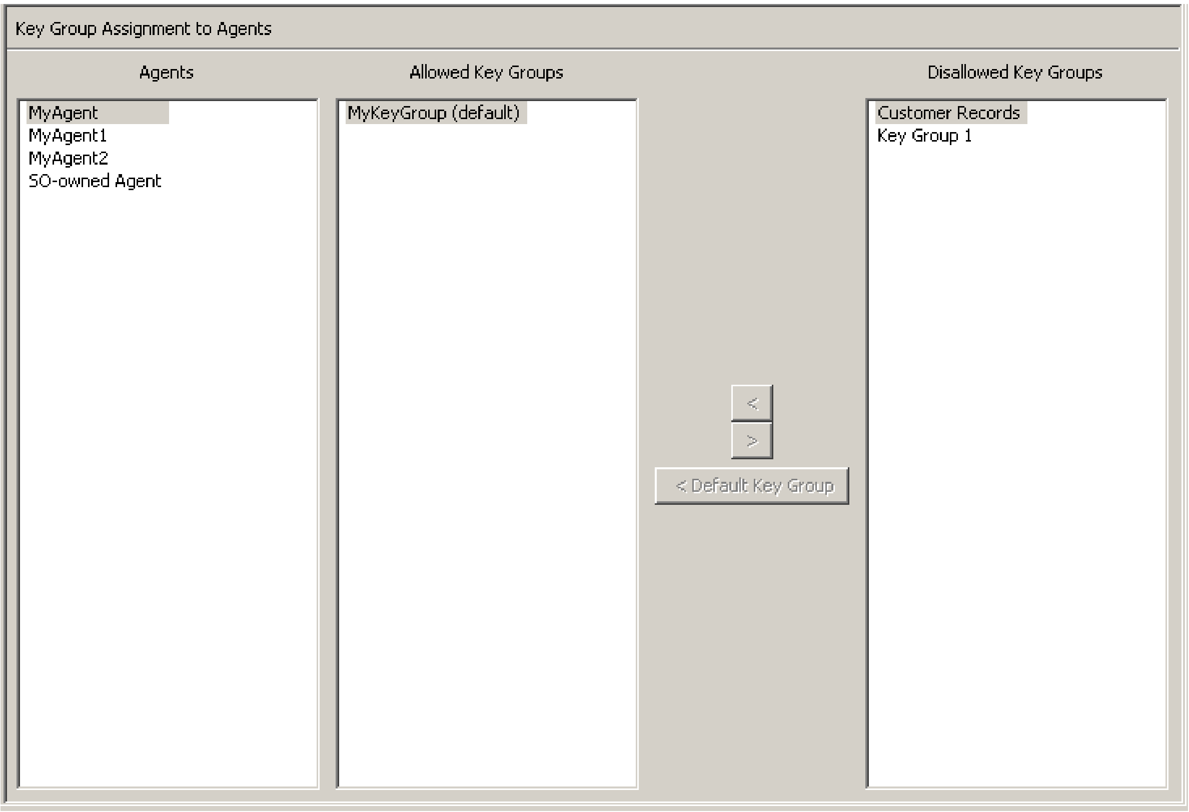
Key Group Assignment to Agents Menu

The Key Group Assignment to Agents menu option allows you to assign Key Groups to Agents. It is the converse of the Agent Assignment to Key Groups menu option, both accomplishing the same result.


Secure Information Management
Key Groups
Key Group List
Agent Assignment to Key Grou
Transfer Partner Assignment tc
Agents
Agent List
Key Group Assignment to Agen
Transfer Partners
Transfer Partner List
Key Group Assignment to Trans
Import Keys
Data Unit List
Backup List

To view the Key Groups:

1. From the Agents menu, select Key Group Assignment. The Key Group Assignment to Agents screen is displayed.

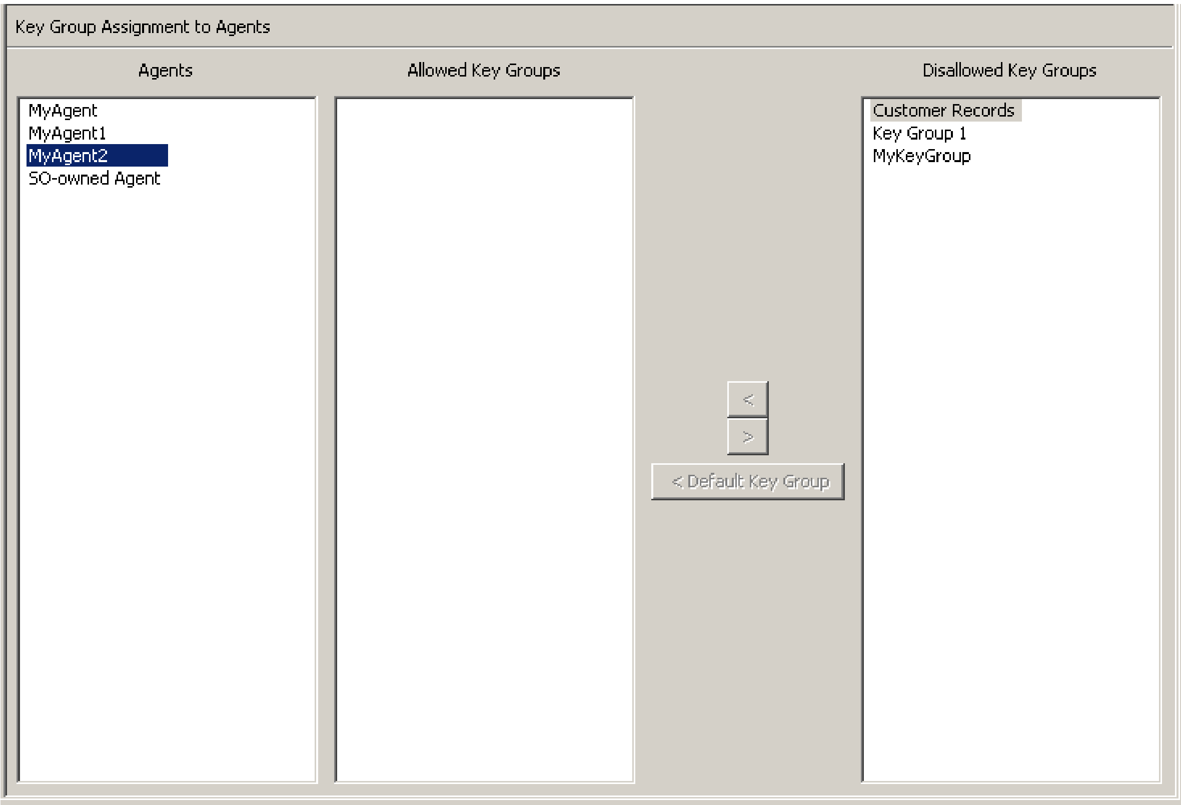


Key Group Assignment to Agents

Agents	Allowed Key Groups	Disallowed Key Groups
MyAgent MyAgent1 MyAgent2 SO-owned Agent	MyKeyGroup (default)	Customer Records Key Group 1

The Agents column lists the Agents in the database. The Allowed Key Groups column lists the Key Groups which the Agent can access. The Disallowed Key Groups column lists the Key Groups which the Agent cannot access.

2. Clicking an Agent entry displays the Key Group that are members or non-members of the selected Agent.

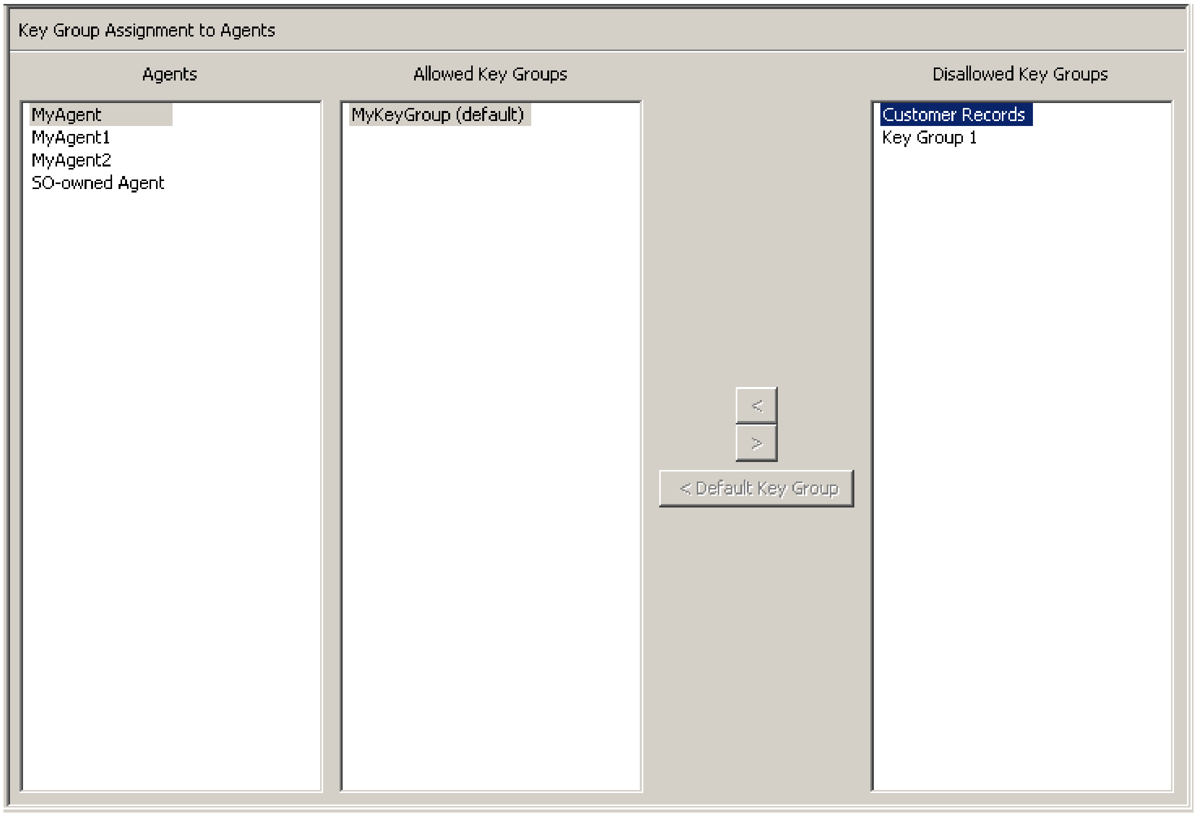


Key Group Assignment to Agents

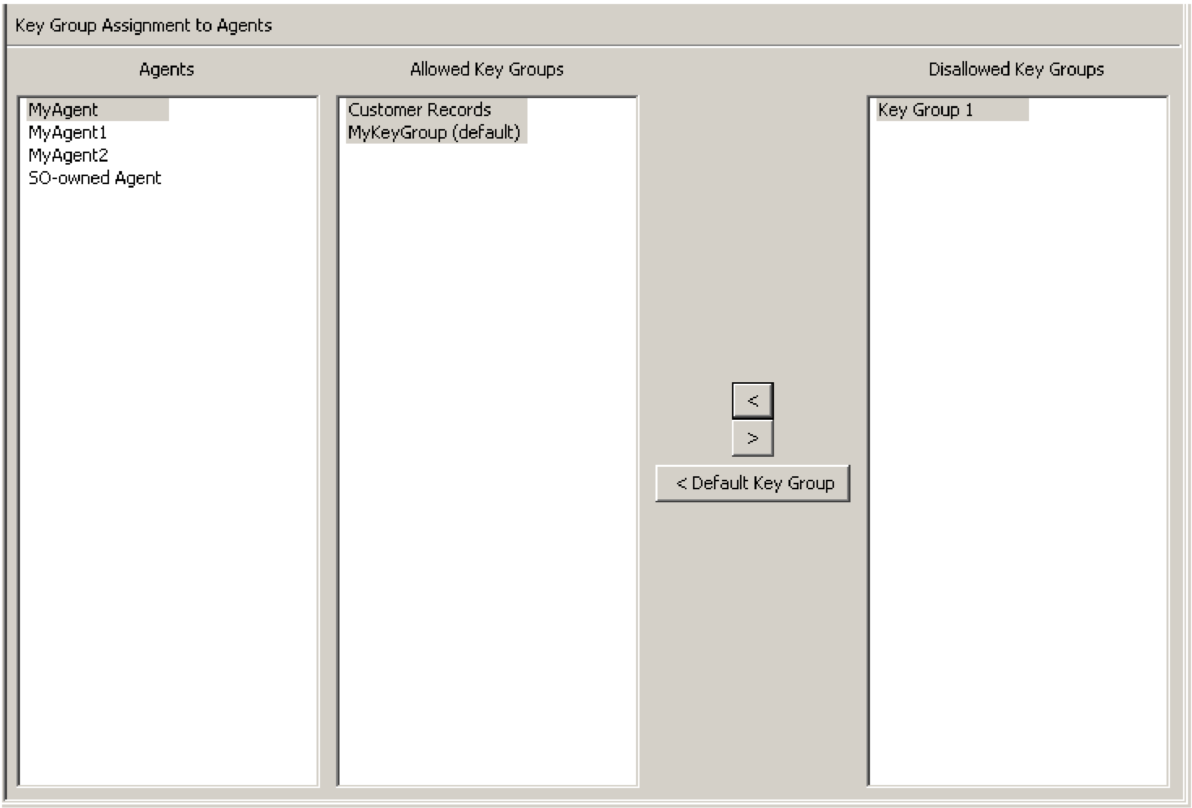
Assigning a Key Group to an Agent

To assign a Key Group to an Agent:

1. From the Key Group Assignment to Agents screen, in the Agents column, highlight the Agent you want. In the Disallowed Key Groups column, highlight the Key Group you want to add and choose the Move to < button.



2. The selected entry is moved to the Allowed Key Groups column and the Key Group is successfully added to the selected Agent.



To assign a Key Group to an Agent as the Default Key Group:

1. From the Key Group Assignment to Agents screen, select the Agent you want in the Agents list.
2. In the Disallowed Key Groups list, select one Key Group you want to add and set the Default Key Group for.
3. Click the Default Key Group button. The selected Key Group is moved to the Allowed Key Groups list and is set as the Default Key Group for the Agent. The Agent is now allowed access to the Key Group.

To set an already assigned Key Group to the Default Key Group:

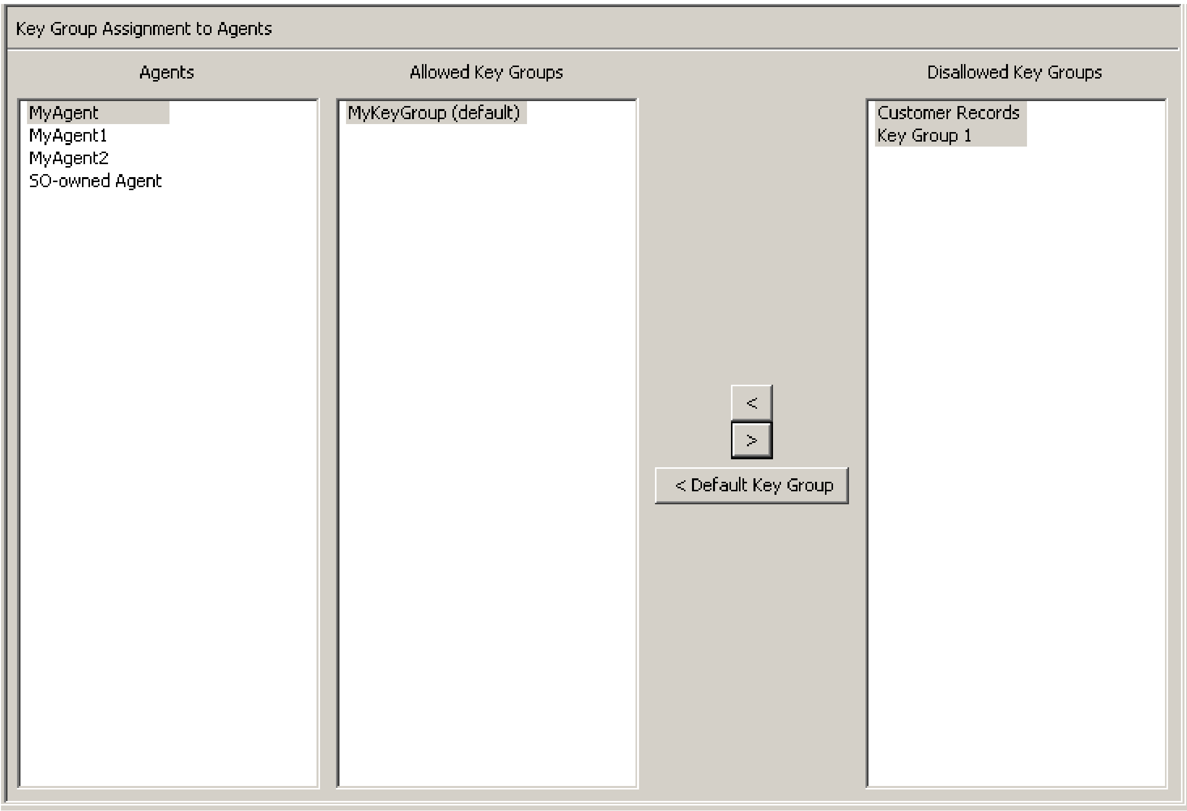
1. From the Key Group Assignment to Agents screen, select the Agent you want in the Agents list.
2. In the Allowed Key Groups list, select one Key Group that is not the Default Key Group for the Agent.

Click the Default Key Group button. The Agent's Default Key Group is set to the selected Key Group.

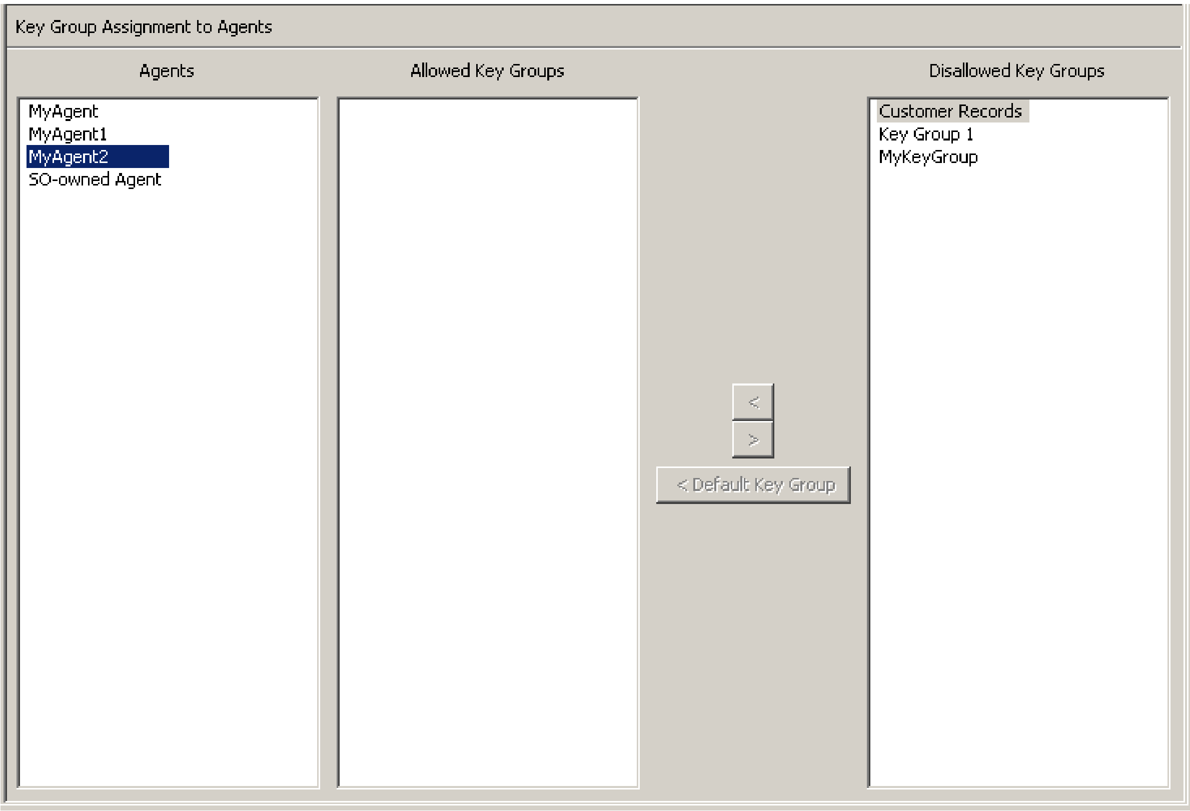
Removing a Key Group from an Agent

To remove a Key Group to an Agent:

1. From the Key Group Assignment to Agents screen, in the Agents column, highlight the Agent you want. In the Allowed Key Groups column, highlight the Key Group you want to remove and choose the Move from > button.

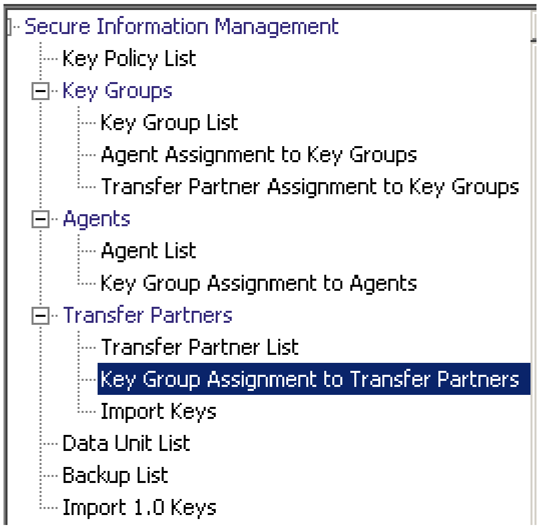


2. The selected entry is removed from the Allowed Key Groups column to the Non-member of Info. Groups column and is no longer assigned to the Agent.


Key Group Assignment to Agents
Agents
Allowed Key Groups
Disallowed Key Groups
MyAgent
MyAgent1
MyAgent2
SO-owned Agent
Customer Records
Key Group 1
MyKeyGroup
<
>
< Default Key Group

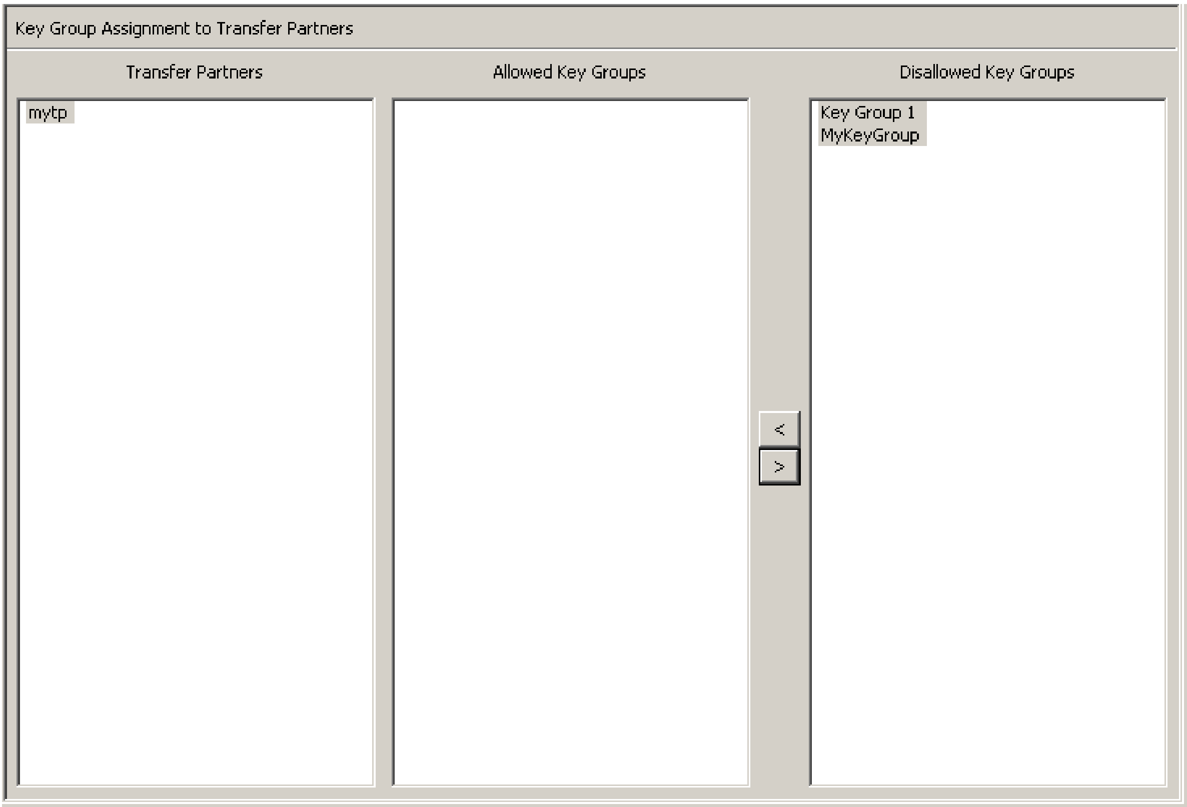
Key Group Assignment to Transfer Partners Menu

The Key Group Assignment to Transfer Partners menu option allows you to assign Key Groups to Transfer Partners.


Secure Information Management
Key Policy List
Key Groups
Key Group List
Agent Assignment to Key Groups
Transfer Partner Assignment to Key Groups
Agents
Agent List
Key Group Assignment to Agents
Transfer Partners
Transfer Partner List
Key Group Assignment to Transfer Partners
Import Keys
Data Unit List
Backup List
Import 1.0 Keys

Viewing Key Group Assignments

To view Key Group assignments, from the Transfer Partners menu, select Key Group Assignment to Transfer Partners. The following screen is displayed.

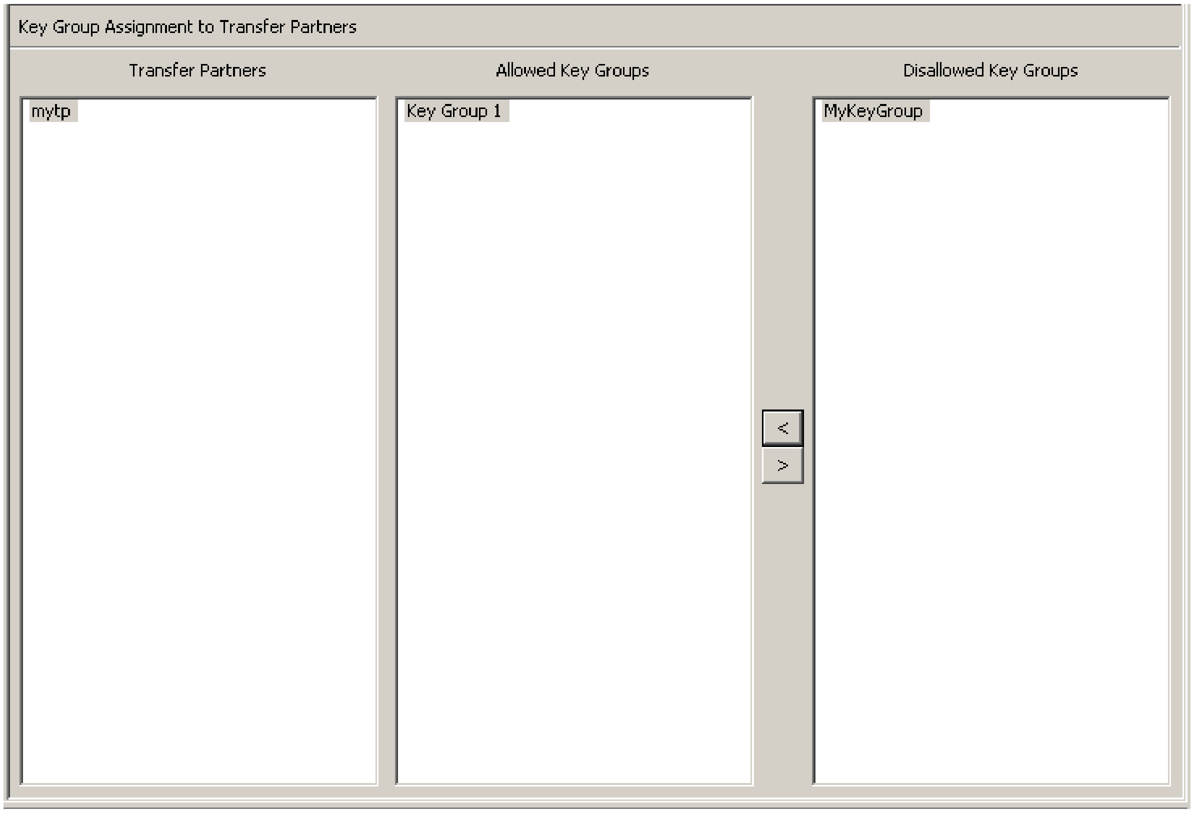


The screen shows the Key Groups that can access a Transfer Partner. The Allowed Key Groups column lists the Key Groups assigned to the selected Transfer Partner. The Disallowed Key Groups column displays the Key Groups not assigned to the Transfer Partner.

Adding a Key Group to a Transfer Partner

To add a Key Group to a Transfer Partner list:

1. In the Transfer Partners column, highlight the Transfer Partner you want to affect. In the Disallowed Key Groups column, highlight the Key Group you want to add and choose the Move to < button.

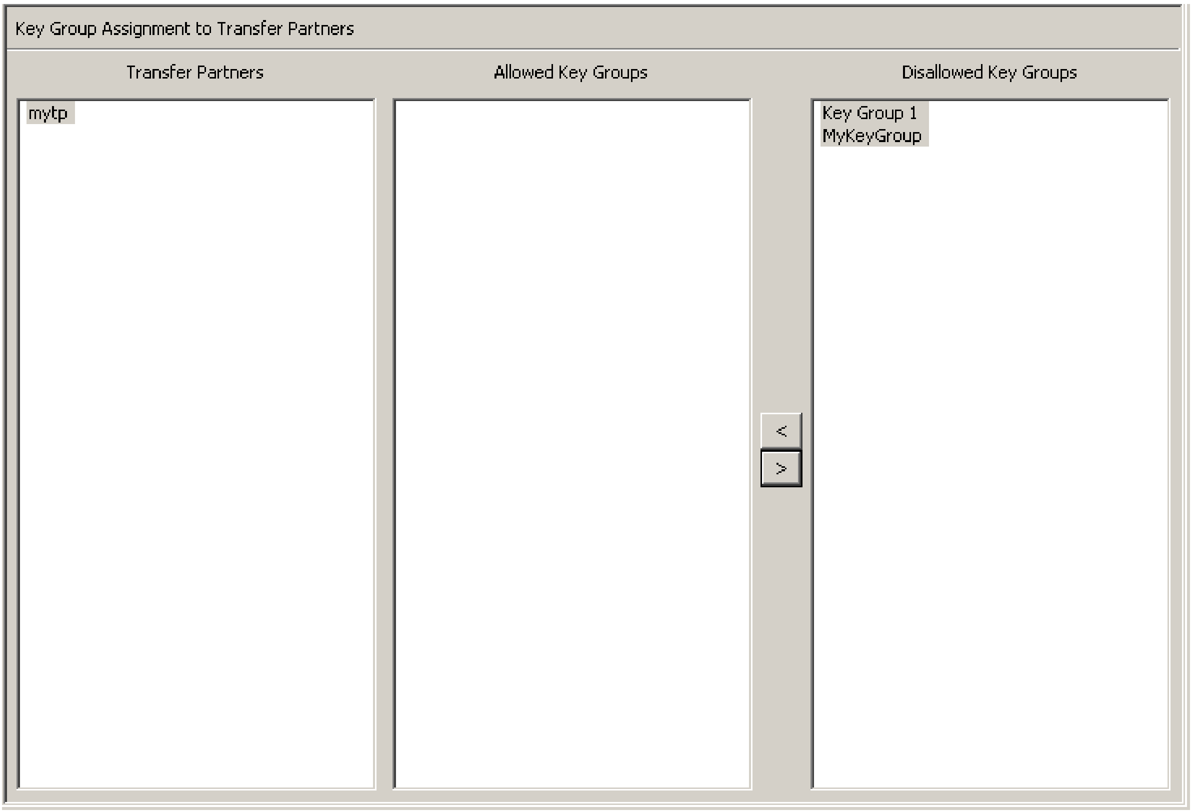


2. The selected Key Group is moved to the Allowed Key Groups column, indicating that the Transfer Partner can now access that Key Group.

Removing a Key Group from a Transfer Partner

To remove a Key Group list from a Transfer Partner:

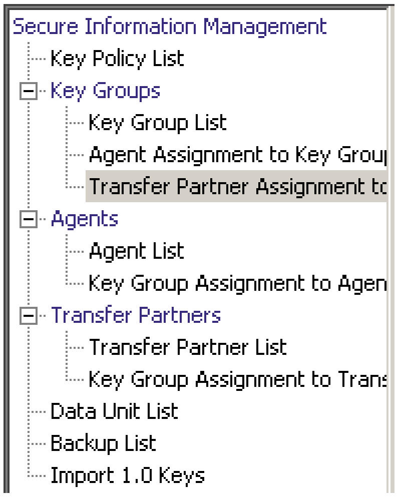
1. In the Transfer Partners column, highlight the Transfer Partner you want to affect. In the Allowed Key Groups column, highlight the Key Group you want to remove and choose the Move from > button.



2. The selected Key Group is moved to the Disallowed Key Groups column, indicating that the Transfer Partner cannot access that Key Group.

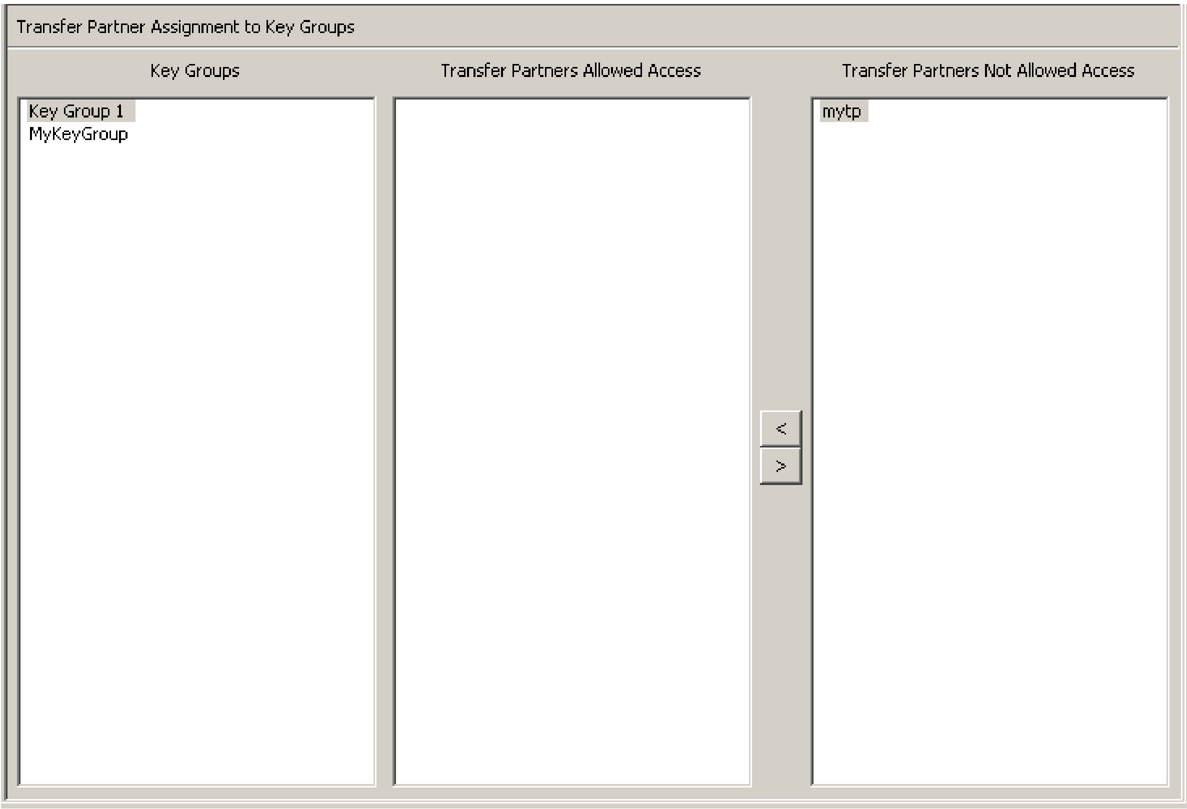
Transfer Partner Assignment to Key Groups Menu

The Transfer Partner Assignment to Key Groups menu allows you to add a key transfer partner to the set of key transfer partners that are permitted access to a specific key group.


Secure Information Management
Key Policy List
Key Groups
Key Group List
Agent Assignment to Key Grou
Transfer Partner Assignment to
Agents
Agent List
Key Group Assignment to Agen
Transfer Partners
Transfer Partner List
Key Group Assignment to Trans
Data Unit List
Backup List
Import 1.0 Keys

Viewing Transfer Group Assignments

To view Transfer Group assignments, from the Key Groups menu, select Transfer Partner Assignment to Key Groups. The following screen is displayed.



Transfer Partner Assignment to Key Groups

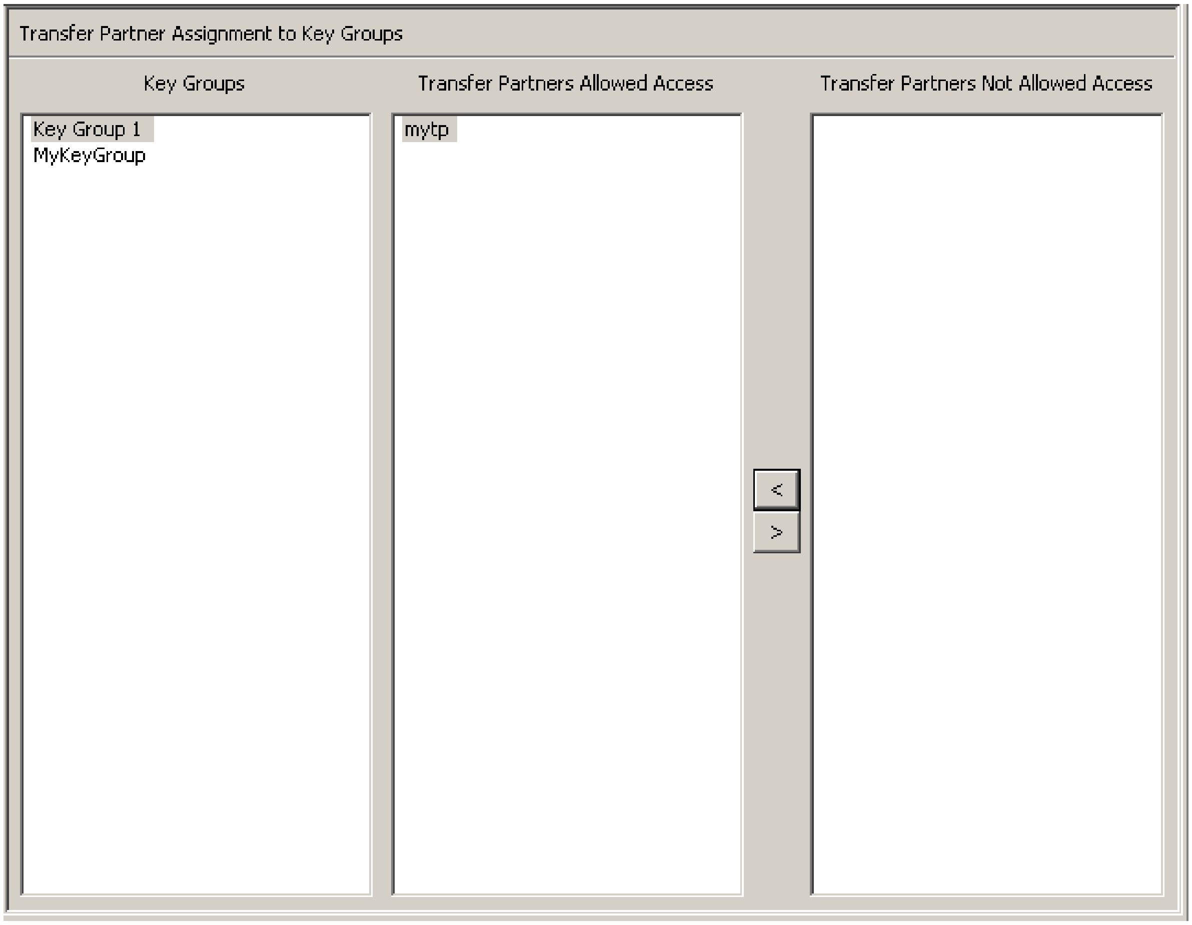
Key Groups	Transfer Partners Allowed Access	Transfer Partners Not Allowed Access
Key Group 1		mytp
MyKeyGroup		

The screen shows the Transfer Partners that can access a Key Group. The Transfer Partners Allowed Access column lists the Transfer Partners assigned to the Key Group. The Transfer Partners Not Allowed Access column displays the Transfer Partners not assigned to the Key Group.

Adding a Transfer Partner to a Key Group

To add a Transfer Partner to a Key Group:

1. In the Key Groups column, highlight the Key Group you want to affect. In the Transfer Partners Allowed Access column, highlight the Key Group you want to add and choose the Move to < button.

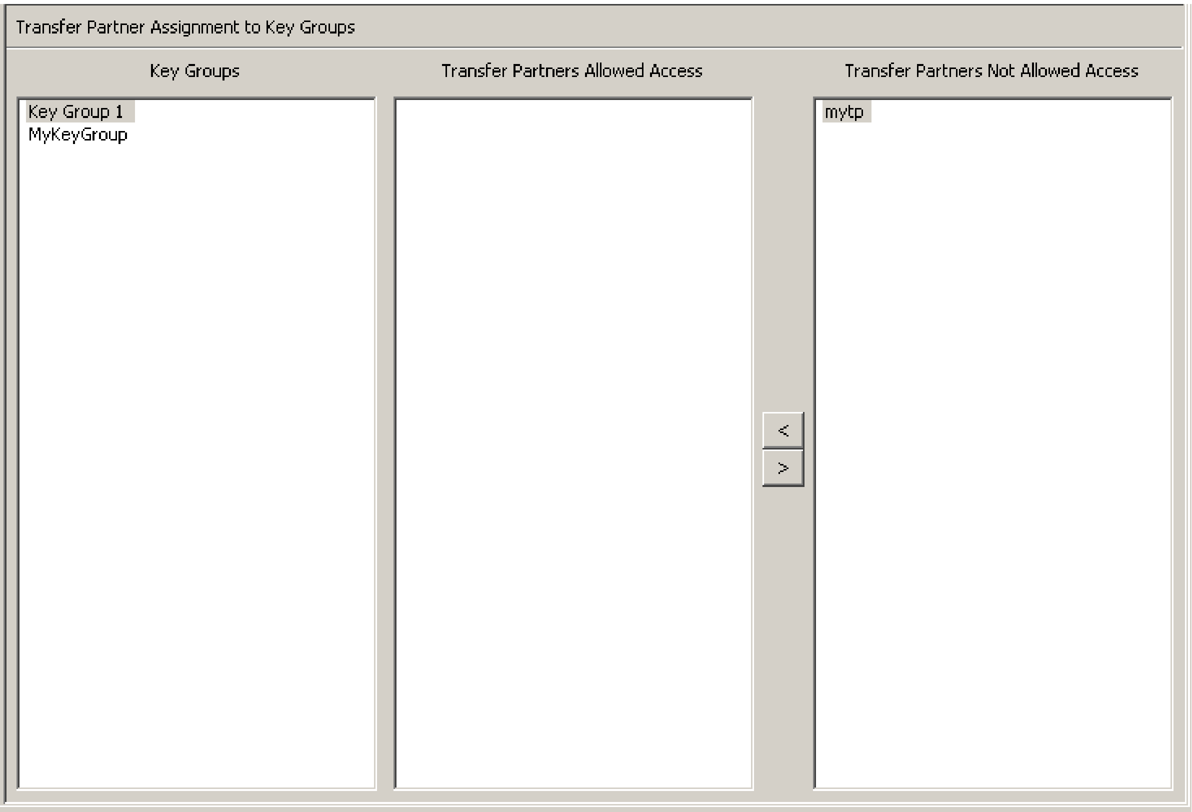

Transfer Partner Assignment to Key Groups
Key Groups
Transfer Partners Allowed Access
Transfer Partners Not Allowed Access
Key Group 1
MyKeyGroup
mytp
<
>

2. The selected Transfer Partner is moved to the Transfer Partners Allowed Access column, indicating that the Key Group can now access that Transfer Partner.

Removing a Transfer Partner from a Key Group

To remove a Transfer Partner from a Key Group:

1. In the Key Groups column, highlight the Key Group you want to affect. In the Transfer Partners Allowed Access column, highlight the Transfer Partner you want to remove and choose the Move from > button.

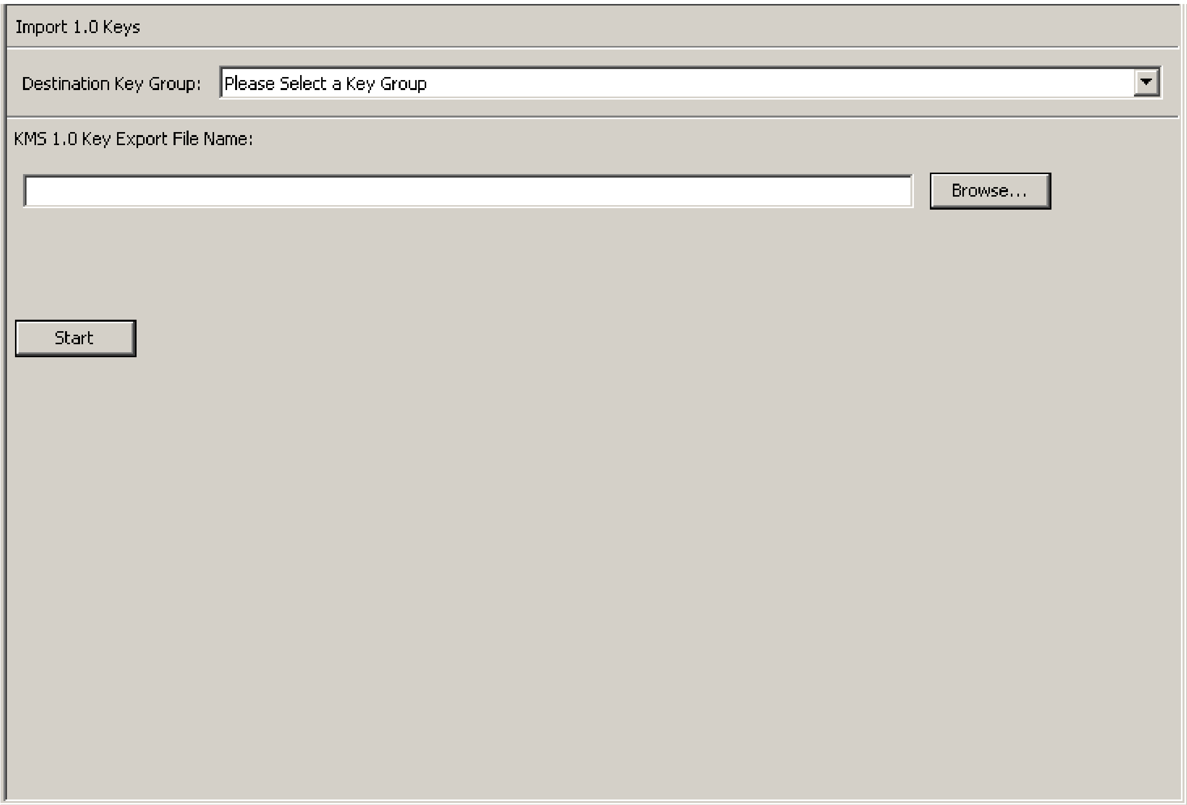

Transfer Partner Assignment to Key Groups
Key Groups
Transfer Partners Allowed Access
Transfer Partners Not Allowed Access
Key Group 1
MyKeyGroup
mytp
<
>

2. The selected Transfer Partner is moved to the Transfer Partners Not Allowed Access column, indicating that the Key Group cannot access that Transfer Partner.

Importing a KMS 1.0 Key Export File

To import a KMS 1.0 Key Export file to the KMA and to create a new Key for each Key in this file:

1. Go to the KMS 1.2 system and export the keys into a file. Only keys exported from KMS 1.2 systems can be imported. KMS 1.0 and 1.1 systems must be upgraded to 1.2 before exporting keys.
2. From the Secure Information Management menu, select **Import 1.0 Keys**.



3. Complete the following parameters:

Destination Key Group

Select the Destination Key Group into which these keys will be imported.

KMS 1.0 Key Export File Name

Type the name of the KMS 1.0 Key Export file.

Browse

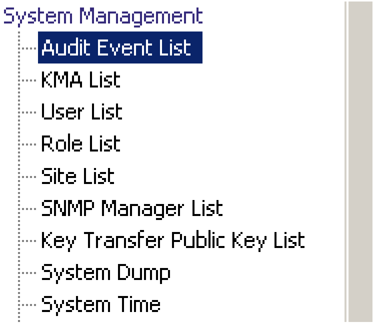
Click this button to locate the file.

Start

Click this button to begin to upload the KMS 1.0 keys file to the KMA, and a new Key is created for each Key it contains. Each new Key is associated with the Key Group you selected. Messages are displayed indicating when the file is uploaded and applied.

Audit Event List Menu

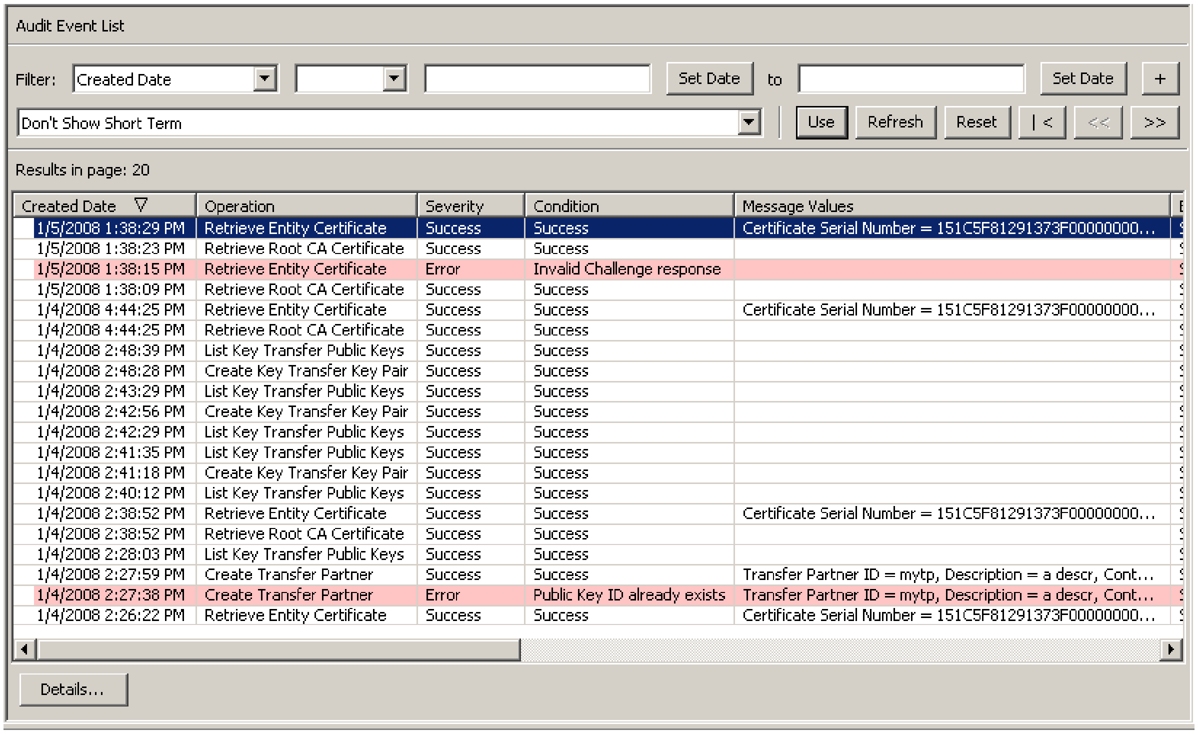
The Audit Event List menu gives you the ability to view the Audit Log events.



Viewing Audit Logs

To view the Audit Log events:

From the System Management menu, select Audit Event List. The Audit Event List screen is displayed.



Filter: Created Date

Don't Show Short Term

Results in page: 20

Created Date ▽	Operation	Severity	Condition	Message Values
1/5/2008 1:38:29 PM	Retrieve Entity Certificate	Success	Success	Certificate Serial Number = 151C5F81291373F00000000...
1/5/2008 1:38:23 PM	Retrieve Root CA Certificate	Success	Success	
1/5/2008 1:38:15 PM	Retrieve Entity Certificate	Error	Invalid Challenge response	
1/5/2008 1:38:09 PM	Retrieve Root CA Certificate	Success	Success	
1/4/2008 4:44:25 PM	Retrieve Entity Certificate	Success	Success	Certificate Serial Number = 151C5F81291373F00000000...
1/4/2008 4:44:25 PM	Retrieve Root CA Certificate	Success	Success	
1/4/2008 2:48:39 PM	List Key Transfer Public Keys	Success	Success	
1/4/2008 2:48:28 PM	Create Key Transfer Key Pair	Success	Success	
1/4/2008 2:43:29 PM	List Key Transfer Public Keys	Success	Success	
1/4/2008 2:42:56 PM	Create Key Transfer Key Pair	Success	Success	
1/4/2008 2:42:29 PM	List Key Transfer Public Keys	Success	Success	
1/4/2008 2:41:35 PM	List Key Transfer Public Keys	Success	Success	
1/4/2008 2:41:18 PM	Create Key Transfer Key Pair	Success	Success	
1/4/2008 2:40:12 PM	List Key Transfer Public Keys	Success	Success	
1/4/2008 2:38:52 PM	Retrieve Entity Certificate	Success	Success	Certificate Serial Number = 151C5F81291373F00000000...
1/4/2008 2:38:52 PM	Retrieve Root CA Certificate	Success	Success	
1/4/2008 2:28:03 PM	List Key Transfer Public Keys	Success	Success	
1/4/2008 2:27:59 PM	Create Transfer Partner	Success	Success	Transfer Partner ID = mytp, Description = a descr, Cont...
1/4/2008 2:27:38 PM	Create Transfer Partner	Error	Public Key ID already exists	Transfer Partner ID = mytp, Description = a descr, Cont...
1/4/2008 2:26:22 PM	Retrieve Entity Certificate	Success	Success	Certificate Serial Number = 151C5F81291373F00000000...

You can also scroll through the database and filter the Audit Event list by any of the following keys:

- Created Date
- Operation
- Severity
- Condition
- Entity ID
- Entity Network Address
- KMA ID
- KMA Name
- Class
- Retention Term
- Audit Log ID.

The **Use** button applies the filter to the displayed list for the Audit Log.

The fields and their descriptions are given below:

Filter:

Displays the fields that you can use to filter the results of queries made to the KMA. Possible values are:

- Created Date
- Operation
- Severity
- Condition
- Entity ID
- Entity Network Address
- KMA Name
- Class
- Retention Term
- Audit Log ID

Filter Operator box:

Click the down-arrow and select the filter operation you want. Possible values are:

- Empty
- Not empty

Filter Value 1 box:

If you selected the Date filter, click Set Date to specify start date and time. The value appears as a starting value of the filter key range. If you selected any other filter, type a value in this field.

Filter Value 2 box:

If you selected the Date filter, click Set Date to select an end date and time. The value appears as a ending value of the filter key range.

Filter Value 3 box:

Click the down-arrow and select one of the following filters:

- Don’t Show Short Term
- Show All Retentions

Created Date

Displays the date and time that the Audit Event was created.

Operation

Displays the operation that resulted in the creation of the Audit Event record.

Severity

Indicates the severity of the condition if the operation was not successful. Possible values are Success (no error), Warning, or Error.

Condition

Indicates whether the operation was successful or not.

Note – Errors are highlighted in red; Warnings are highlighted in yellow. If you hover the cursor over an error message, a more detailed description of the error is displayed.

Event Message

Displays detailed information of the Audit Event entry.

Entity ID

Displays the user who performed the operation.

Entity Network Address

Displays the network address of the entity that generated the Audit Event.

KMA ID

Displays the Appliance that originally created the Audit Event entry.

KMA Name

Displays the user-supplied identifier that distinguishes each Appliance in a Cluster.

Class

Identifies the class of operations to which the Audit Event entry belongs. Possible values are:

- Agent Access Control Management Operations
- Agent Client Generated Audits
- Agent Management Operations
- Appliance Management Operations
- Audit Log Agent Operations
- Audit Log Management Operations
- Audit Log Operations
- Backup Management Operations
- CA Operations
- Cluster Client Communication
- Cluster Operations
- Communication and Authentication
- Console Security Management Operations
- Data Unit Agent Operations
- Data Unit Management Operations

- Discovery Operations
- Key Group Agent Operations
- Key Group Management Operations
- Key Policy Management Operations
- License Key Management Operations
- Local Management Operations
- Management Client Generated Audits
- Passphrase Agent Operations
- Replication Operations
- Retrieve Certificate Operations
- Role Management operations
- SNMP Management Operations
- Security Management Operations
- Security Parameter Management Operations
- Security Violation
- Site Management Operations
- System Messages
- User Management Operations.

Retention Term

Displays the defined length of time that the Audit Event record is retained. Possible values are and their descriptions are:

Long Term

Event records that must be stored for a lengthy period of time.

Medium Term

Event records that must be stored for a medium length period of time.

Short Term

Event records that must be stored for a short period of time.

Audit Log Entry ID

Displays a system-generated unique identifier that distinguishes each type of Audit Event entry.

Audit Log ID

Displays a system-generated unique identifier that distinguishes each Audit Event entry.

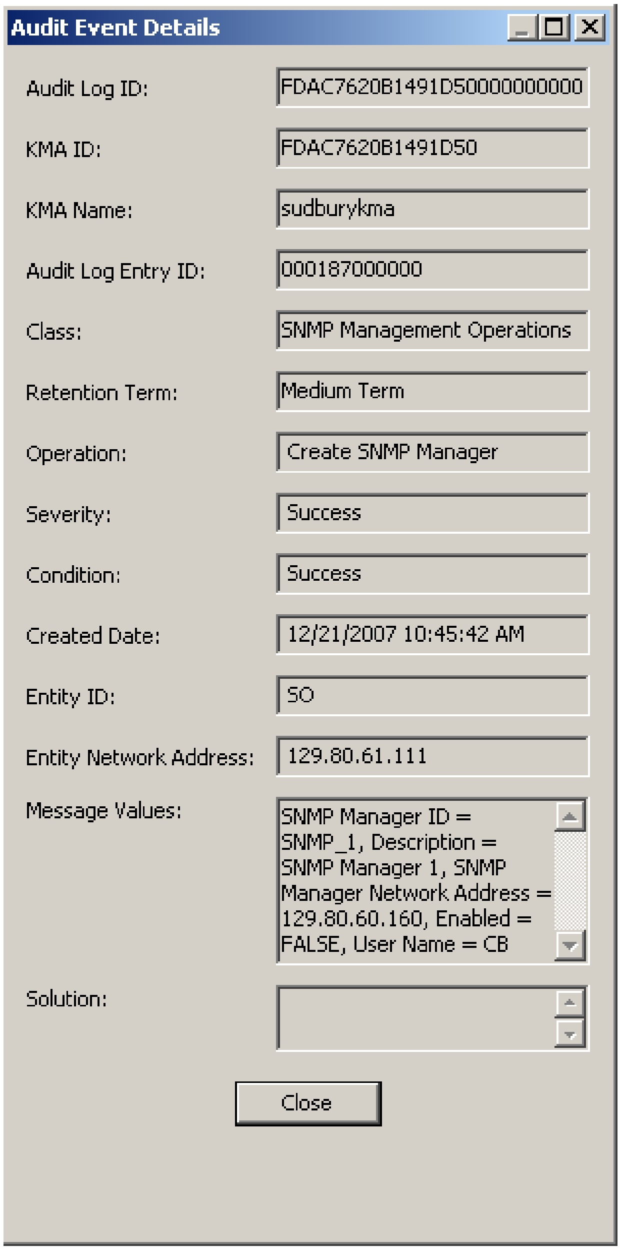
If you want more detailed information on an Audit Log, highlight the Audit Log and choose the Details button. For more information, refer to "Viewing Audit Log Details" below.

Choose the Export button to export the Audit Log. For more information, refer to "Exporting an Audit Log" on page 224.

Viewing Audit Log Details

To view Audit Log details:

1. From the Audit Event List screen, select the Audit Log entry on which you want more information and choose the Details button or double-click the entry. The Audit Event Details screen is displayed, where all fields are disabled, except for the Close button.



Audit Event Details

Audit Log ID:	FDAC7620B1491D50000000000
KMA ID:	FDAC7620B1491D50
KMA Name:	sudburykma
Audit Log Entry ID:	000187000000
Class:	SNMP Management Operations
Retention Term:	Medium Term
Operation:	Create SNMP Manager
Severity:	Success
Condition:	Success
Created Date:	12/21/2007 10:45:42 AM
Entity ID:	SO
Entity Network Address:	129.80.61.111
Message Values:	SNMP Manager ID = SNMP_1, Description = SNMP Manager 1, SNMP Manager Network Address = 129.80.60.160, Enabled = FALSE, User Name = CB
Solution:	

2. Choose the Close button to return to the Audit Event List screen.

Exporting an Audit Log

The Export function allows the user to export all or specific Audit Log entries to a text file on the user's workstation. The user can then bring up the file in a spreadsheet application.

To export an Audit Log:

1. From the Audit Event List screen, either select `Save Report...` from the View menu or press Ctrl-S.
2. When you are finished, choose the Start button to initiate the export process. If you have filtered the entries in the Audit Event List screen, only those entries are exported. Otherwise, all audit events are exported.
3. When the export process is completed, the number of Audit Logs that have been exported is shown at the bottom of the dialog box.
4. Choose the Close button to close this dialog box and return to the Audit Event List screen.

Data Units Menu

For procedures on using the Data Units menu, refer to “Data Unit List Menu” on page 242.

Other Functions

A Compliance Officer can also:

- View the Audit Event List
- View the System Time
- Lock/Unlock KMA status.

For procedures on viewing the these functions, refer to Chapter 5, “Security Officer Operations”.

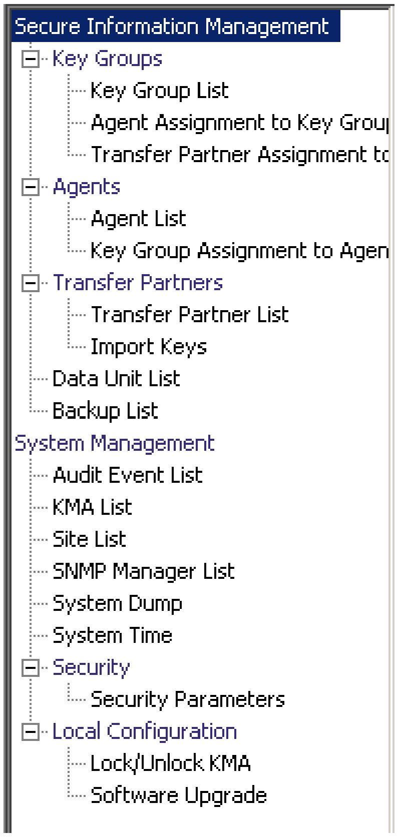
CHAPTER 7

Operator Operations

This chapter describes the operations that a user who has been given an Operator role can perform. If you have been assigned multiple roles, refer to the appropriate chapter for instructions on performing the specific role.

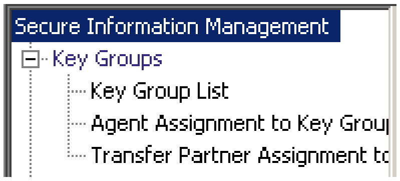
Operator Role

As the Operator, you are responsible for managing the day-to-day operations of the system.



Key Groups Menu

The Key Groups menu contains the following menu options.


Secure Information Management
Key Groups
Key Group List
Agent Assignment to Key Grou
Transfer Partner Assignment tc

It allows you to:

- View a list of Key Groups
- View Agent to Key Group Assignments
- View Transfer Partner to Key Group Assignments.

Key Group List

The Key Group List menu option gives the user the ability to manage your Key Group. For procedures, refer to "Key Group List Menu" on page 188.

Agent Assignment to Key Groups

The Agent Assignment to Key Groups menu option gives the user the ability to view Agents to Key Groups. For procedures, refer to "Agent Assignment to Key Groups Menu" on page 196.

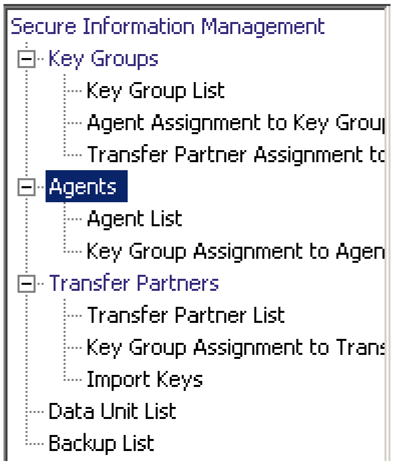
Transfer Partner Assignment to Key Groups

The Transfer Partner Assignment to Key Groups option allows the user to view a key transfer partner to the set of key transfer partners that are allowed access to a specific key group. For procedures, refer to "Transfer Partner Assignment to Key Groups Menu" on page 213.

Agent List Menu

The Agent List menu option allows you to:

- View Agents
- Create Agents
- View/Modify an Agent
- Delete existing Agents.

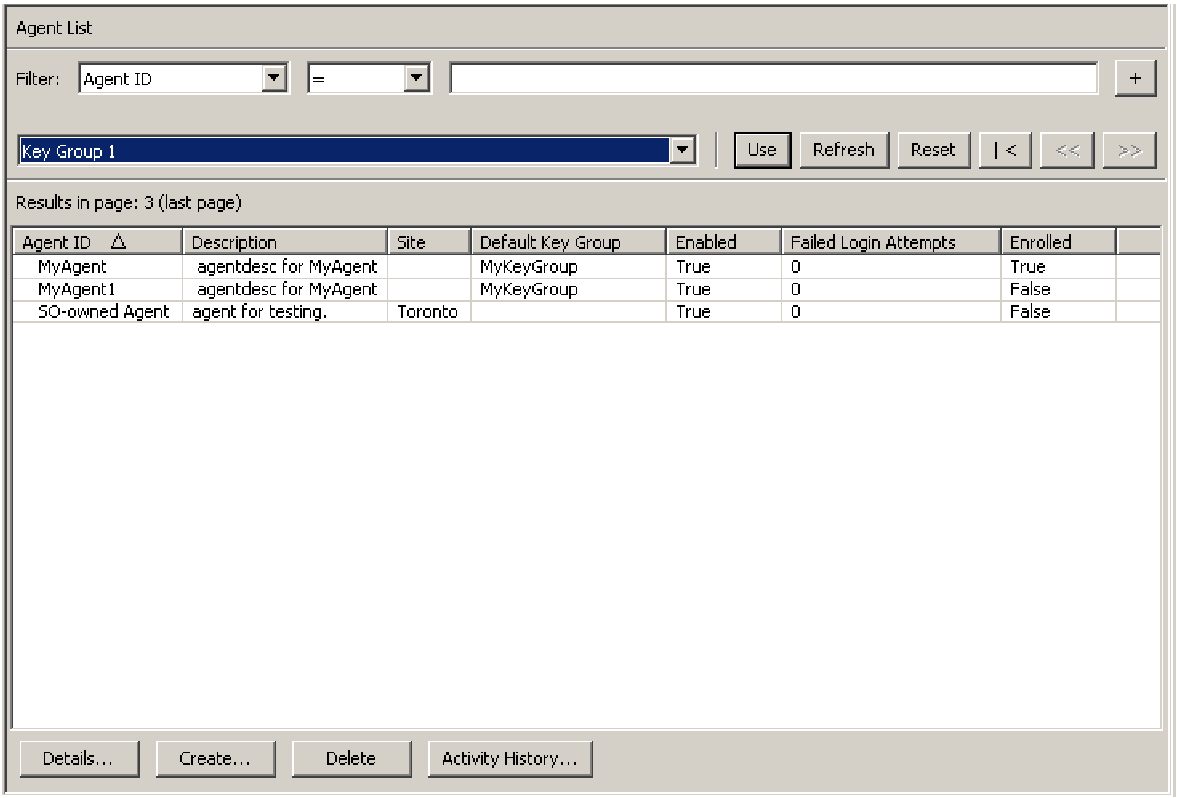

Secure Information Management
Key Groups
Key Group List
Agent Assignment to Key Grou
Transfer Partner Assignment tc
Agents
Agent List
Key Group Assignment to Agen
Transfer Partners
Transfer Partner List
Key Group Assignment to Trans
Import Keys
Data Unit List
Backup List

Viewing the Agent List

The Agent List menu option allows the user to view all Agents associated with a specific Key Group.

To view this screen:

1. From the Agents menu, select **Agent List**. The Agent List screen is displayed.
2. Click the down-arrow beside the Key Group field and select a Key Group. The Agents that are associated with the Key Group are displayed.



Results in page: 3 (last page)

Agent ID △	Description	Site	Default Key Group	Enabled	Failed Login Attempts	Enrolled
MyAgent	agentdesc for MyAgent		MyKeyGroup	True	0	True
MyAgent1	agentdesc for MyAgent		MyKeyGroup	True	0	False
SO-owned Agent	agent for testing.	Toronto		True	0	False

You can also scroll through the lists and filter the Agents lists by any of the following keys:

- Agent ID
- Description
- Site
- Default Key Group
- Enabled
- Failed Login Attempts
- Enrolled.

The **Use** button applies the filter to the displayed list for the Agent.

The fields and their descriptions are given below:

Filter:

Displays the fields that you can use to filter the results of queries made to the KMA. Possible values are:

- Agent ID
- Description
- Site
- Default Key Group
- Enabled
- Failed Login Attempts
- Enrolled

Filter Operator box:

Click the down-arrow and select the filter operation you want. Possible values are:

- Equals =
- Not equal <>
- Greater than >
- Less than <
- Greater than or equals >=
- Less than or equals <=
- Starts with ~
- Empty
- Not empty

Filter Value text box:

Type a value to filter the selected attribute by. This filter option is not displayed for all filter attributes.

Filter Value combo box:

Click the down-arrow and select a value to filter the selected attribute by. This filter option is not displayed for all filter attributes.

⊞ Click this button to add additional filters.

⊟ Click this button to remove a filter. This button is only displayed if there is more than one filter shown.

Show Agents in any Key Group:

A canned filter to filter the Agents by their Key Group association, only Agents that are associated with the selected Key Group will be shown. Click the down-arrow and select a Key Group to filter by.

Use:

Click this button to apply the selected filters to the displayed list and go to the first page.

Refresh:

Click this button to refresh the list.

Reset:

Click this button to remove all filters and reset the displayed list to the first page.

|<

Click this button to go to the first page of the list.

<<

Click this button to go to the previous page.

>>

Click this button to go to the next page.

Results in Page:

Displays the number of records per page that were configured in the Query Page Size field in the Options dialog box.

Agent ID

Displays the user-specified unique identifier that distinguishes each Agent.

Description

Describes the Agent.

Site

Displays a unique identifier that indicates the Site to which the Agent belongs.

Default Key Group

The key group associated with all keys created by this agent if the agent does not explicitly specify a different key group.

Enabled

Indicates the status of the Agent. Possible values are: True or False. If this field is False, the Agent cannot establish a session with the KMA.

Failed Login Attempts

Displays the number of times that an attempted logon has failed

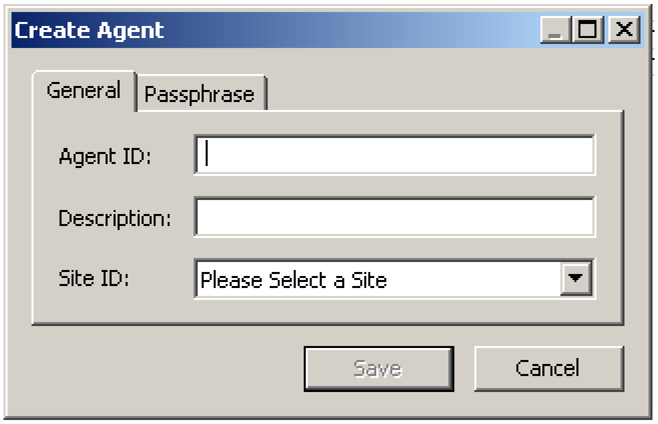
Enrolled

Indicates whether the Agent has enrolled successfully with the KMS Cluster. Possible values are True or False. This field is False if the Agent is the first created or if the Agent’s passphrase is changed.

Creating an Agent

To create an Agent:

1. From the Agents List screen, choose the Create button. The Create Agent screen is displayed with the General tab open.



2. Complete the following parameters:

Agent ID

Type a value that uniquely identifies the Agent. This value can be between 1 and 64 (inclusive) characters.

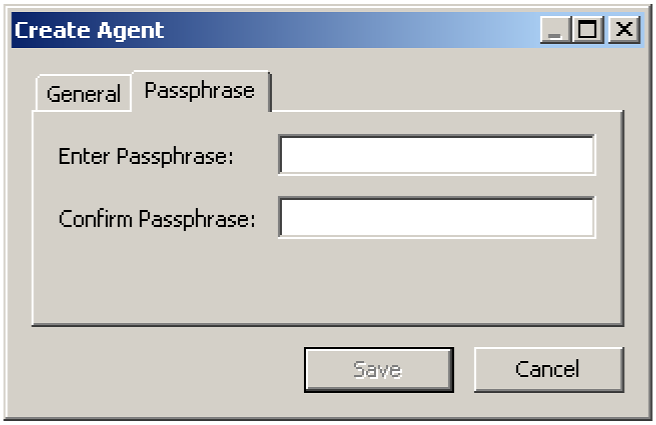
Description

Type a value that describes the Agent. This value can be between 1 and 64 (inclusive) characters.

Site ID

Click the down-arrow and highlight the Site to which the Agent belongs. This field is optional.

3. Open the Passphrase tab.



4. Complete the following parameters:

Passphrase

Type the passphrase for this user. The minimum value is 8 characters; the maximum value is 64 characters. The default value is 8.

Passphrase requirements:

- A passphrase must not contain the user's Agent ID.
- A passphrase must contain three of the four character classes: uppercase, lowercase, numeric, or special characters.

  The following special characters are allowed:

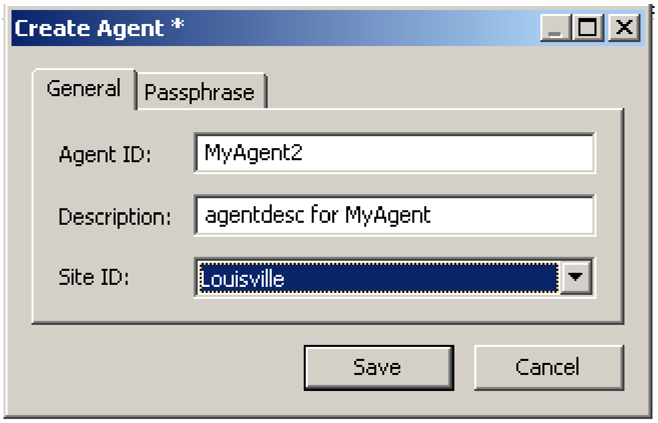
  ‘ ~ ! @ # $ % ^ & * ( ) - _ = + [ ] { } \ | ; : ’ ” < > , . / ?
- Control characters, including tabs and linefeeds, are not allowed.

Note – To modify the minimum length requirement for passphrases, see “Modifying the Security Parameters” on page 158.

Confirm Passphrase

Type the same value that you entered in the Enter Passphrase field.

An example of a completed Create Agent screen is shown below.



Create Agent *

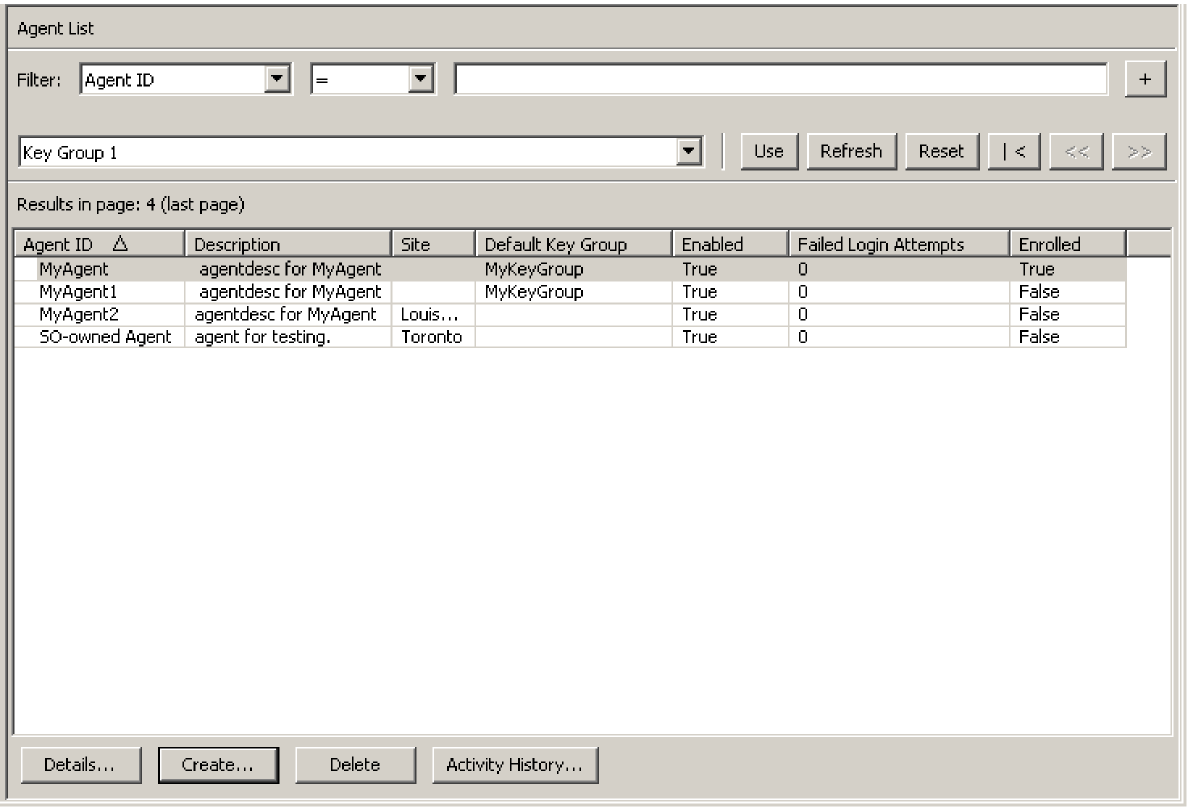
Agent ID: MyAgent2

Description: agentdesc for MyAgent

Site ID: Louisville

5. Choose the Save button. The Agent record is added to the database and is displayed in the Agent List screen.

6. Complete the agent-specific enrollment procedure using the agent-specific interface. For example, for Sun drives, the VOP (Virtual Operator Panel) must be used to complete the enrollment procedure.



Agent List

Filter: Agent ID =

Key Group 1

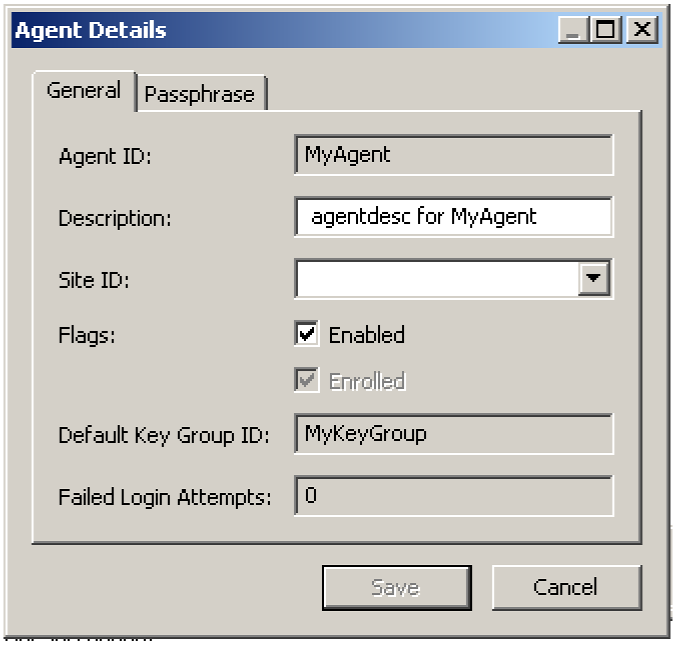
Results in page: 4 (last page)

Agent ID	Description	Site	Default Key Group	Enabled	Failed Login Attempts	Enrolled
MyAgent	agentdesc for MyAgent		MyKeyGroup	True	0	True
MyAgent1	agentdesc for MyAgent		MyKeyGroup	True	0	False
MyAgent2	agentdesc for MyAgent	Louis...		True	0	False
SO-owned Agent	agent for testing.	Toronto		True	0	False

Viewing/Modifying an Agent

To modify an Agent's details:

1. From the Agents List screen, double-click an Agent entry for which you want more information or highlight an Agent entry and choose the Details button. The Agents Details screen is displayed.



Agent ID: MyAgent

Description: agentdesc for MyAgent

Site ID:

Flags: ☑ Enabled

☑ Enrolled

Default Key Group ID: MyKeyGroup

Failed Login Attempts: 0

2. Open the General tab and modify the following fields, as required:

- Description
- Site ID
- Flags - Enabled

Note – You should only change the Agent's passphrase if you believe that the passphrase has been compromised. For procedures, refer to "Setting an Agent's Passphrase" on page 237.

---

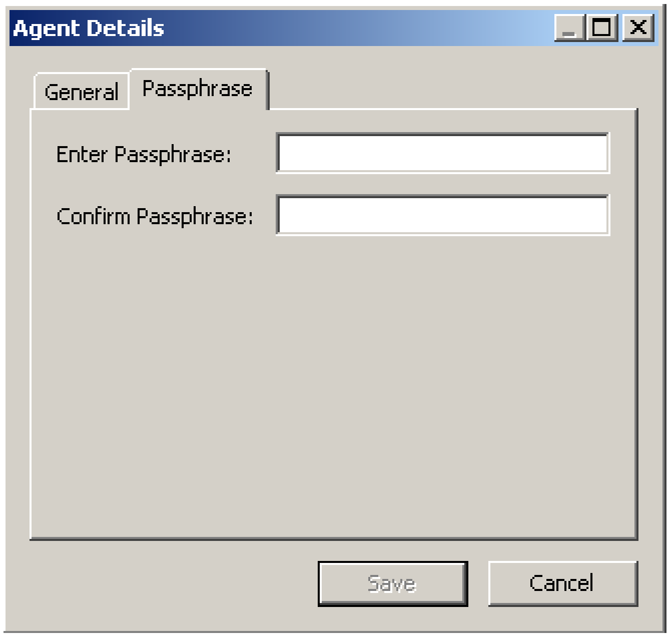
3. When you are finished, choose the Save button. The changes are made to the KMS Manager database and you are returned to the Agents List screen.

Setting an Agent's Passphrase

When you set an Agent's passphrase, you are effectively revoking the Agent certificate that enables the Agent to authenticate itself with the KMA. As the Operator, you may want to set an Agent's passphrase certificate if you believe that the Agent certificate and/or passphrase has been compromised.

To set an Agent's passphrase:

1. From the Agents List screen, double-click the Agent entry whose passphrase you want to set or highlight the Agent entry and choose the Details button. The Agent Details screen is displayed. Open the Passphrase tab.



2. Modify the following fields and choose the Save button:

- Enter Passphrase
- Confirm Passphrase.

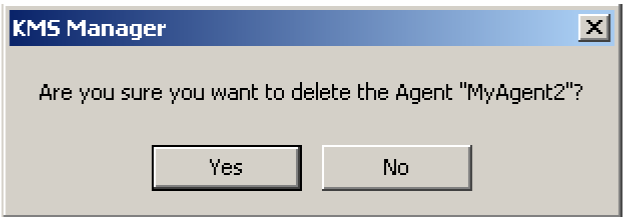
3. The changes are made to the database and you are returned to the Agents List screen.

4. Re-enroll the Agent using the agent-specific procedure. For example, for Sun tape drives, the VOP (Virtual Operator Panel) must be used to re-enroll the Agent with the KMS Cluster. After changing an Agent's passphrase, the Agent will not be able to make requests to the KMS Cluster until it is re-enrolled.

Deleting Agents

To delete an Agent:

1. From the Agents List screen, highlight the Agent you want to delete. The following dialog box is displayed, prompting you to confirm that you want to delete the selected Agent.

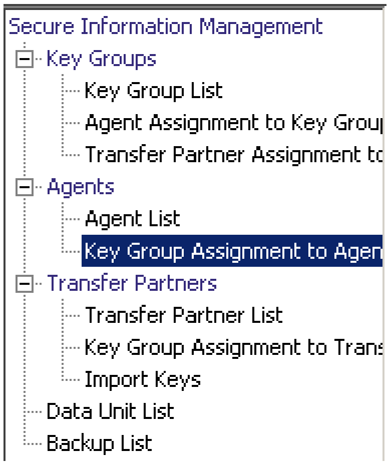


Are you sure you want to delete the Agent "MyAgent2"?

2. Choose the Yes button to delete the Agent. The Agent is removed from the database and you are returned to the Agents List screen, where the deleted Agent is no longer listed.

Key Group Assignment to Agents Menu

The Key Group Assignment to Agents menu option allows you to view Key Groups assigned to Agents. For procedures, refer to "Key Group Assignment to Agents Menu" on page 202.


Secure Information Management
Key Groups
Key Group List
Agent Assignment to Key Grou
Transfer Partner Assignment tc
Agents
Agent List
Key Group Assignment to Agen
Transfer Partners
Transfer Partner List
Key Group Assignment to Trans
Import Keys
Data Unit List
Backup List

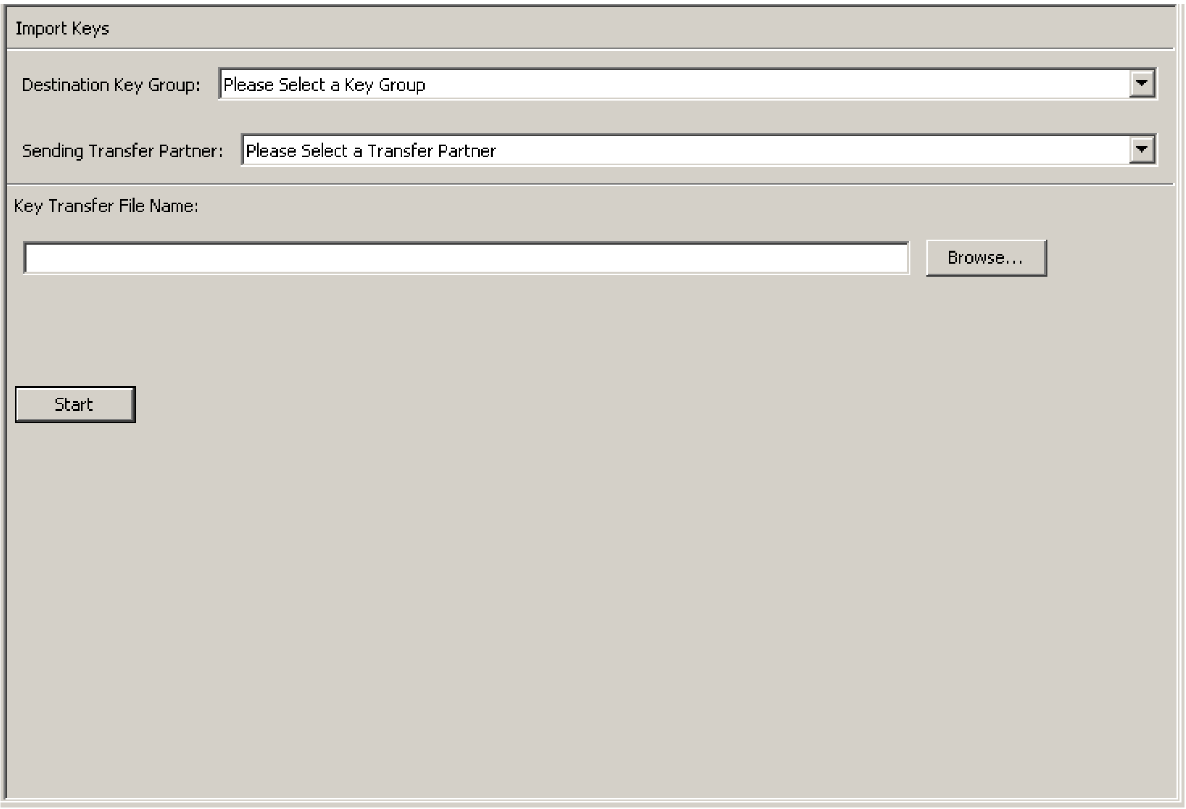
Import Keys Menu

This menu option imports keys and data units into a KMS Cluster. The keys and data unit information are contained in a key transfer file received from a key transfer partner.

Note – Use this screen to upload and import keys to the KMS Cluster. These keys are exported from another KMS Cluster.

To import keys:

1. From the Transfer Partners menu, select Import Keys. The Import Keys screen is displayed.



Import Keys

Destination Key Group: Please Select a Key Group

Sending Transfer Partner: Please Select a Transfer Partner

Key Transfer File Name:

2. Complete the following parameters:

Destination Key Group:

Select the Destination Key Group into which these keys will be imported.

The “Allow Imports” flag for this Key Group's key policy must be checked. This Key Group must be an allowed Key Group for the selected sending Transfer Partner.

Sending Transfer Partner:

Select the Sending Transfer Partner which exported these keys.

Key Transfer File:

Type the name of the Key Transfer file. You can also click Browse to select a destination path.

3. Click the Start button to begin the upload and key import process. Messages are displayed, indicating when the file is uploaded and applied.

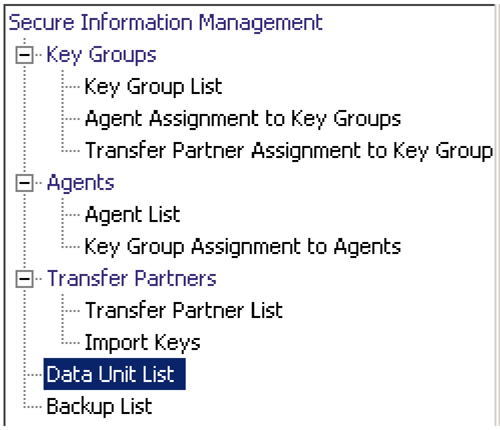
Data Units

Data Units are logical storage devices, such as disks, tapes, objects. Data Units are secured by valid Key Policies that are associated with their Key Groups. Agent must have access to the selected Data Unit.

Note – An Operator can perform all functions, except modify a Data Unit's Key Group. Only a Compliance Officer can modify a Data Unit's Key Group.

Data Unit List Menu

The Data Unit List menu contains the following menu options:

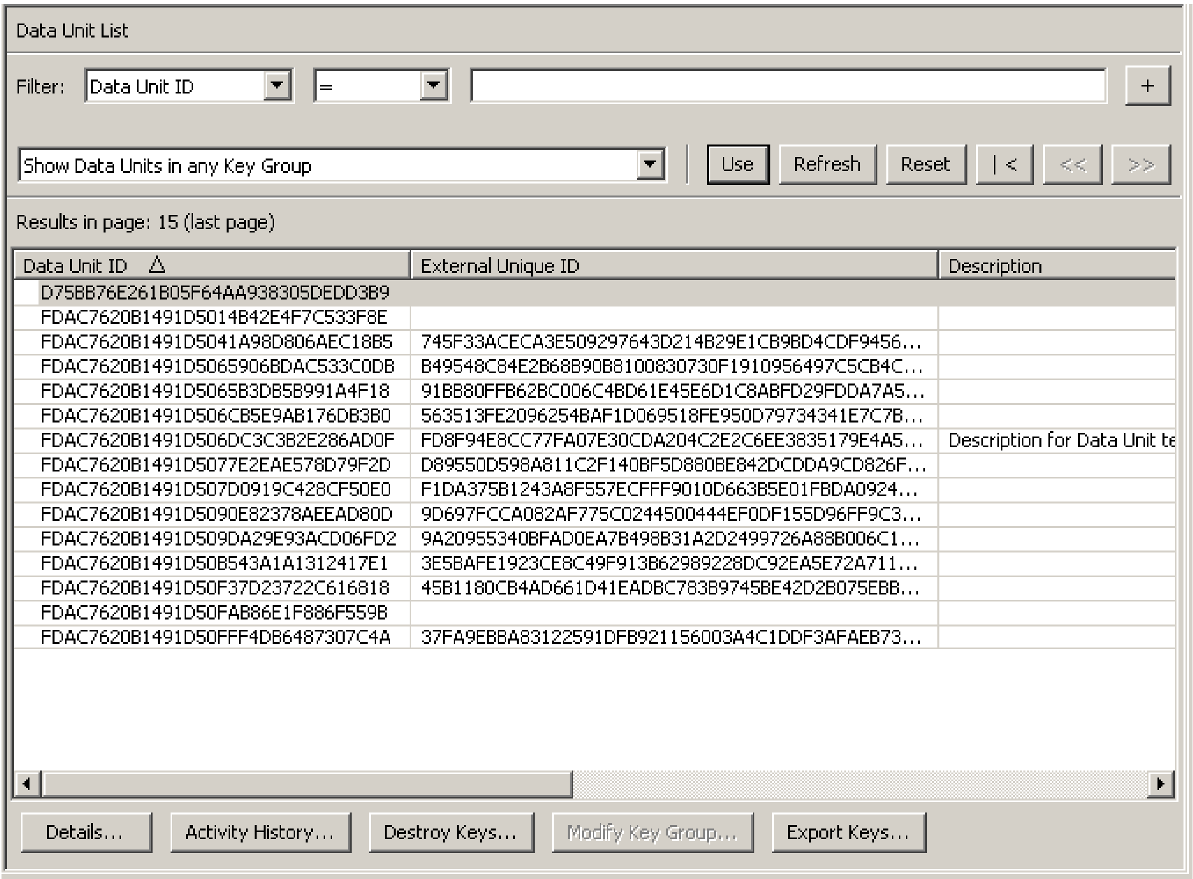

Secure Information Management
Key Groups
Key Group List
Agent Assignment to Key Groups
Transfer Partner Assignment to Key Group
Agents
Agent List
Key Group Assignment to Agents
Transfer Partners
Transfer Partner List
Import Keys
Data Unit List
Backup List

It allows you to:

- View Data Units
- View/Modify Data Unit details
- View the activity history for a Data Unit
- Destroy post-operational keys for a Data Unit.

Viewing Data Units

To view Data Units, from the Data Units menu, select Data Unit List. The Data Unit List screen is displayed.



Results in page: 15 (last page)

Data Unit ID △	External Unique ID	Description
D75BB76E261B05F64AA938305DEDD3B9		
FDAC7620B1491D5014B42E4F7C533F8E		
FDAC7620B1491D5041A98D806AEC18B5	745F33ACECA3E509297643D214B29E1CB9BD4CDF9456...	
FDAC7620B1491D5065906BDAC533C0DB	B49548C84E2B68B90B8100830730F1910956497C5CB4C...	
FDAC7620B1491D5065B3DB5B991A4F18	91BB80FFB62BC006C4BD61E45E6D1C8ABFD29FDDA7A5...	
FDAC7620B1491D506CB5E9AB176DB3B0	563513FE2096254BAF1D069518FE950D79734341E7C7B...	
FDAC7620B1491D506DC3C3B2E286AD0F	FD8F94E8CC77FA07E30CDA204C2E2C6EE3835179E4A5...	Description for Data Unit te
FDAC7620B1491D5077E2EAE578D79F2D	D89550D598A811C2F140BF5D880BE842DCDDA9CD826F...	
FDAC7620B1491D507D0919C428CF50E0	F1DA375B1243A8F557ECFFF9010D663B5E01FBDA0924...	
FDAC7620B1491D5090E82378AEEAD80D	9D697FCCA082AF775C0244500444EF0DF155D96FF9C3...	
FDAC7620B1491D509DA29E93ACD06FD2	9A20955340BFAD0EA7B498B31A2D2499726A88B006C1...	
FDAC7620B1491D50B543A1A1312417E1	3E5BAFE1923CE8C49F913B62989228DC92EA5E72A711...	
FDAC7620B1491D50F37D23722C616818	45B1180CB4AD661D41EADBC783B9745BE42D2B075EBB...	
FDAC7620B1491D50FAB86E1F886F559B		
FDAC7620B1491D50FFF4DB6487307C4A	37FA9EBBA83122591DFB921156003A4C1DDF3AFAEB73...	

You can also scroll through the database and filter the Data Unit list by any of the following keys:

- Data Unit ID
- External Unique ID
- Description
- External Tag
- Created Date
- Imported
- Exported
- State.

The **Use** button applies the filter to the displayed list for the Data Unit.

The fields and their descriptions are given below:

Filter:

Displays the fields that you can use to filter the results of queries made to the KMA. Possible values are:

- Data Unit ID
- External Unique ID
- Description
- External Tag
- Created Date
- Imported
- Exported
- State

Filter Operator box:

Click the down-arrow and select the filter operation you want. Possible values are:

- Equals =
- Not equal <>
- Greater than >
- Less than <
- Greater than or equals >=
- Less than or equals <=
- Starts with ~
- Empty
- Not empty

Show Data Units in Any Key Group. Use:

Click this button to apply the filter to the displayed list.

Refresh:

Click this button to refresh the list.

Reset:

Click this button to remove all filters and reset the displayed list to the first page.

|<

Click this button to go to the first page of the list.

<<

Click this button to go to the previous page.

>>

Click this button to go to the next page.

Results in Page:

Displays the number of records per page that were configured in the Query Page Size field in the Options dialog box.

Data Unit ID

Displays a system-generated unique identifier that distinguishes each Data Unit.

External Unique ID

Displays a unique external identifier for the Data Unit.

This value is sent to the KMS by the Agent and may not be externally visible to an end user. For LTO Gen 4 tapes, this is the cartridge serial number burned into the cartridge when it is manufactured. Do not confuse this value with a volser on an optical barcode or in an ANSI tape label. This value is not used for Sun tape drives.

Description

Describes the Data Unit.

External Tag

Describes a unique external tag for the Data Unit.

For tapes that are in a Sun tape library, or tapes that have ANSI standard labels, this field will be the volser. If the tape is in a library and has an ANSI label, the library volser (i.e., optical bar code) will be used if it differs from the volser contained in the ANSI label. For tapes written in stand-alone drives without ANSI labels, this field will be blank.

Created Date

Indicates the date and time when the Data Unit was created/registered.

Imported

Indicates whether the Data Unit has been imported.

Exported

Indicates whether the Data Unit has been exported.

State

Indicates the state of the Data Unit. Possible values are:

- No Key: Set when the Data Unit has been created, but has not yet had any keys created.
- Readable: Set when the Data Unit has keys that allow at least some parts of the Data Unit to be decrypted (read).
- Normal: Set when the Data Unit has keys that allow at least some parts of the Data Unit to be decrypted (read). In addition, the Data Unit has at least one protect-and-process state key that can be used to encrypt data. The Data Unit is therefore writable.
- Needs ReKey: Set when the Data Unit has keys that allow at least some parts of the Data Unit to be decrypted (read). However, the Data Unit does not have at least one protect-and-process state key.

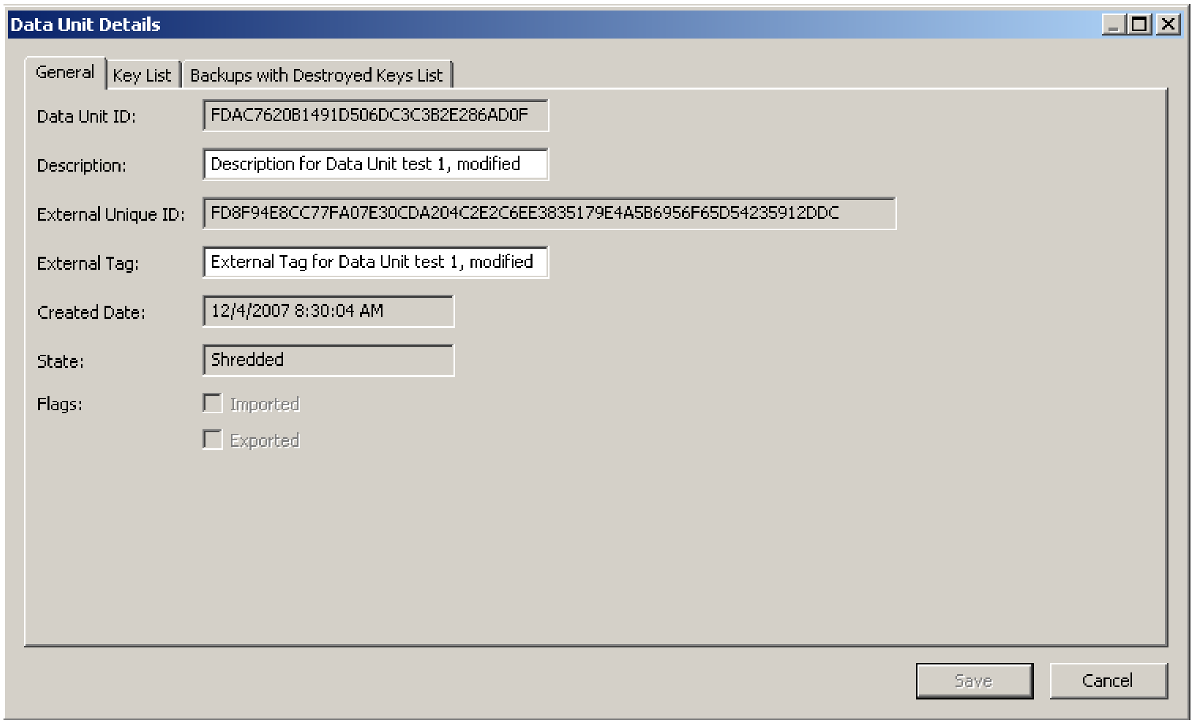
  If data is written to this tape, it will automatically be given a new protect and process key.
- Shredded: Set when all of the keys for this Data Unit are destroyed. The Data Unit cannot be read or written. However, a new key can be created for this Data Unit, moving its state back to Normal.

Viewing/Modifying Data Unit Details

Note – If you are not an Operator, when you view a Data Unit's detailed information, all fields, including the Save button are disabled. If you are a Compliance Officer, the Key Group field is enabled.

To modify a Data Unit's information:

1. From the Data Unit List screen, select the Data Unit you want to modify and choose the Details button. The Data Unit Details screen is displayed.



Data Unit ID: FDAC7620B1491D506DC3C3B2E286AD0F

Description: Description for Data Unit test 1, modified

External Unique ID: FD8F94E8CC77FA07E30CDA204C2E2C6EE3835179E4A5B6956F65D54235912DDC

External Tag: External Tag for Data Unit test 1, modified

Created Date: 12/4/2007 8:30:04 AM

State: Shredded

Flags: □ Imported

□ Exported

2. You can modify the following parameters:

Description

Type a new value. The original information is provided by the Software Encryption Driver during registration. This value can be between 1 and 64 (inclusive) characters or blank.

External Tag

Type a unique external identifier for the Data Unit. This value can be between 1 and 64 (inclusive) characters or blank. This field typically contains the label or barcode of the tape cartridge.

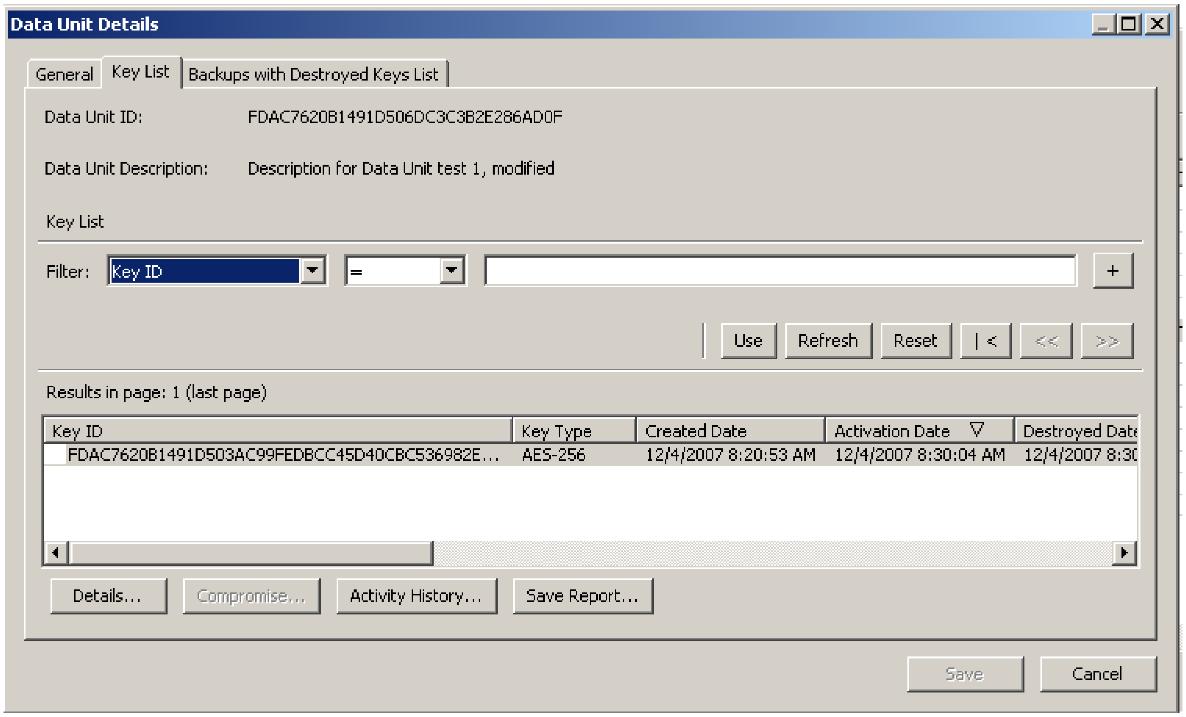
3. Choose the Save button to save your changes.

The following are non-editable fields:

General Tab

- Data Unit ID
- External Unique ID
- Created Date
- State
- Flags Imported/Exported

Key List Tab



Data Unit ID: FDAC7620B1491D506DC3C3B2E286AD0F

Data Unit Description: Description for Data Unit test 1, modified

Key List

Filter: Key ID =

Results in page: 1 (last page)

Key ID	Key Type	Created Date	Activation Date ▽	Destroyed Date
FDAC7620B1491D503AC99FEDBCC45D40CBC536982E...	AES-256	12/4/2007 8:20:53 AM	12/4/2007 8:30:04 AM	12/4/2007 8:3

Data Unit ID

Uniquely identifies the Data Unit.

Data Unit Description

Describes the Data Unit.

Key ID

Displays the key information for the Data Unit.

Key Type

Indicates the type of encryption algorithm that this key uses. Possible values are: AES-256.

Created Date

Displays the date and time when the key was created.

Activation Date

Displays the date and time when the key was activated. This is the date and time when the key was first given to an Agent.   It is the starting date and time for the key's encryption period and cryptoperiod.

Destroyed Date

Displays the date when the key was destroyed. If the field is blank, then the key is not destroyed.

Destruction Comment

Displays any user-supplied information about the destruction of the key. If the field is blank, then the key is not destroyed.

Imported

Indicates whether the Data Unit has been imported.

Exported

Indicates whether the Data Unit has been exported.

Key Group

Displays the Key Group associated with the Data Unit.

Encryption End Date

Displays the date and time when the key will no longer be used or was stopped from being used for encrypting data.

Deactivation Date

Displays the date and time when the key will be or was deactivated.

Compromised Date

Displays the date when the key was compromised. If the field is blank, then the key is not compromised.

Compromised Comment

Displays any user-supplied information about compromising the key. If the field is blank, then the key is not compromised.

Key State

Indicates the Data Unit's key state. Possible values are:

Generated

Set when the Key has been created on one KMA in a KMS Cluster. It remains generated until it has been replicated to at least one other KMA in a multi-KMS Cluster. In a Cluster with only a single KMA, the Key remains generated until it has been recorded in at least one backup.

Ready

Set when the Key has been protected against loss by replication or a backup. A ready Key is available for assignment.

Protect and Process

Set when the Key has been assigned when an encryption agent requests a new key be created. A Key in this state can be used for both encryption and decryption.

Process Only

Set when the Key has been assigned but its encryption period has expired. A Key in this state can be used for decryption but not for encryption.

Deactivated

Set when the Key has passed its cryptoperiod but may still be needed to process (decrypt) information.

Compromised

Set when the Key has been released to or discovered by an unauthorized entity. A Key in this state can be used for decryption but not for encryption.

Incompletely Destroyed

Set when the Key has been destroyed but it still appears in at least one backup.

Completely Destroyed

Set when all of the backups in which the destroyed Key appears have been destroyed.

Compromised and Incompletely Destroyed

Set when the compromised Key still appears in at least one backup.

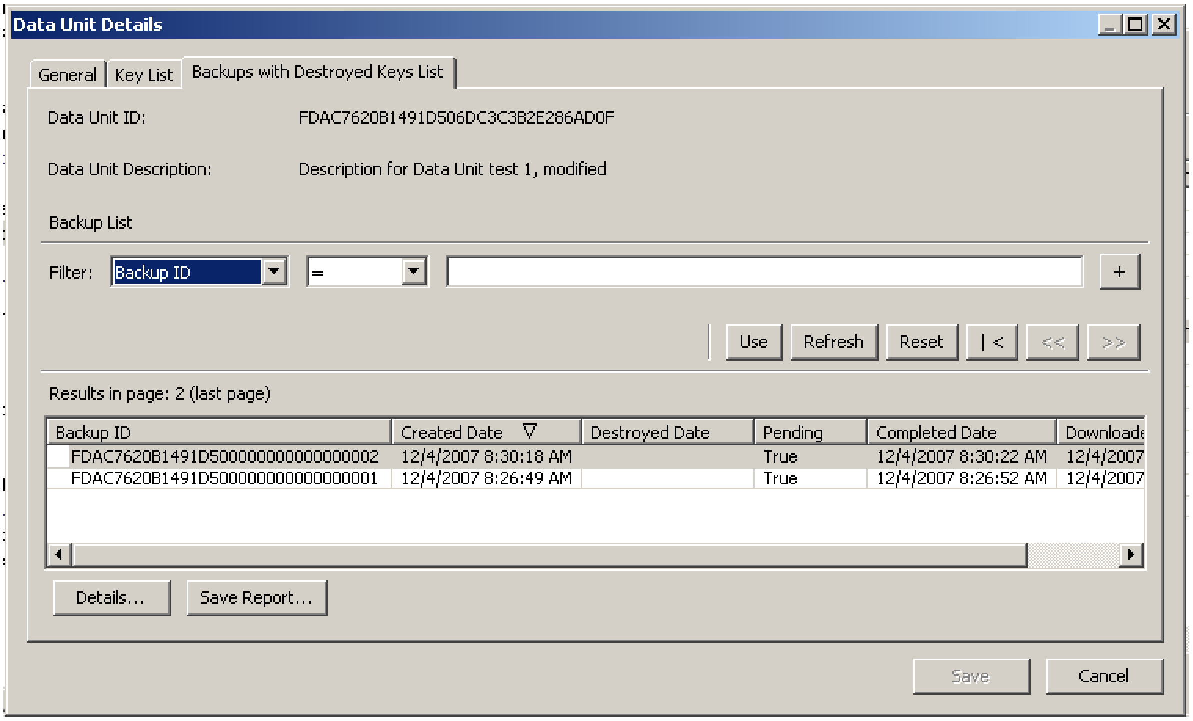
Compromised and Completely Destroyed

Set when all of the backups in which the compromised Key appears have been destroyed.

Recovery Activated

Indicates whether the Key has been linked to the data unit by a recovery action. This condition occurs when a Key is used for a Data Unit by one KMA in a KMS Cluster and then, due to a failure, the Key is later requested for the Data Unit from a different KMA. If the failure (such as a network outage) has prevented the allocation of the Key to the data from being propagated to the second KMA, the second KMA will create the linkage to the data unit. Such a Key is “recovery activated,” and an administrator may want to evaluate the system for KMA or network outages. Possible values are: True and False.

Backups with Destroyed Keys List Tab



Data Unit ID: FDAC7620B1491D506DC3C3B2E286AD0F

Data Unit Description: Description for Data Unit test 1, modified

Filter: Backup ID =

Results in page: 2 (last page)

Backup ID	Created Date ▽	Destroyed Date	Pending	Completed Date	Downloade
FDAC7620B1491D500000000000000002	12/4/2007 8:30:18 AM		True	12/4/2007 8:30:22 AM	12/4/2007
FDAC7620B1491D500000000000000001	12/4/2007 8:26:49 AM		True	12/4/2007 8:26:52 AM	12/4/2007

A Data Unit cannot be considered “completely destroyed” until all Backups containing the Data Unit Key(s) have been destroyed.

The Backups with Destroyed Keys List tab of the Data Unit Details dialog helps you identify those Backups that contain Data Unit Key(s) for the selected Data Unit and the destruction status of those Backups.

The logic for determining if a Backup does contain a particular Data Unit Key is as follows:

> A Backup contains a Data Unit Key, if the Backup was created after the Data Unit Key was created **and** the Data Unit Key has not been destroyed, or if it has been destroyed **and** its destruction took place after the Backup was created.

However, the date-time comparison needs to take into consideration that the clocks of the various KMAs in a Cluster might not be synchronized automatically (if an NTP server is not specified) and hence may be reporting different times. To account for the possibility of time discrepancies among KMAs, a Backup Time Window is used in the comparison. The Backup Time Window is fixed at five minutes. Using the Backup Time Window, the comparison check behaves as follows:

> A Backup contains a Data Unit Key if the Backup was created within five minutes of the backup creation or later **and** the Data Unit Key was destroyed within five minutes of the Backup creation or later.

The Backup Time Window is used to minimize the likelihood of falsely reporting that a Data Unit does not exist in a particular backup when in fact it does. Such a case is known as a “false negative” and seriously undermines compliance requirements for data destruction. Utilization of the Backup Time Window does, however, increase the likelihood of falsely reporting that a Data Unit Key does belong in a Backup when in fact it does not. Unlike “false negatives,” “false positives” do not undermine compliance requirements for data destruction.

Data Unit ID

Uniquely identifies the Data Unit.

Data Unit Description

Describes the Data Unit.

Data Unit Destruction Status

Indicates the Destruction status of the Data Unit.

Backup ID

Identifies the backup.

Created Date

Displays when the date and time when the backup file was created (that is, when the backup started).

Destroyed Date

Displays the date and time when the backup file was destroyed.

Pending:

Indicates whether the backup is still pending. Possible values are True or False.

Completed Date:

Displays the date and time when the backup file was completed.

Downloaded Date:

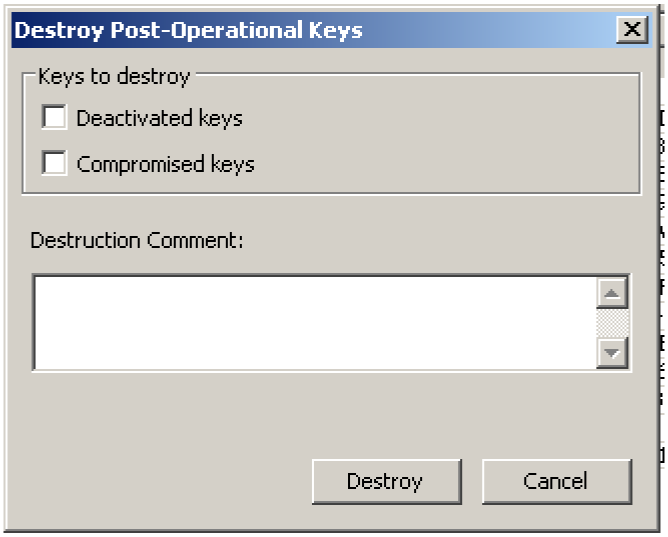
Displays the date and time when the backup file was downloaded.

4. Choose the Save button to save your changes.

Destroying Post-operational Keys

To destroy post-operational keys associated with a data unit:

1. From the Data Unit List screen, highlight the Data Unit you want to destroy and choose the Destroy Keys button.
2. The following dialog box is displayed, prompting you to specify the keys to destroy.



Deactivated keys

Select this checkbox if you want to destroy the keys that have passed their cryptoperiod but still may be needed to process (decrypt) data information.

Compromised keys

Select this checkbox if you want to destroy the keys that have been released to or discovered by an unauthorized entity.

Destruction Comment

Type a comment about the destruction of these keys.

3. If you choose the Destroy button, another dialog box is displayed confirming the destruction of these keys.
4. Choose the Yes button. Another dialog box is displayed showing the number of Keys that have been destroyed.

Software Upgrade Menu

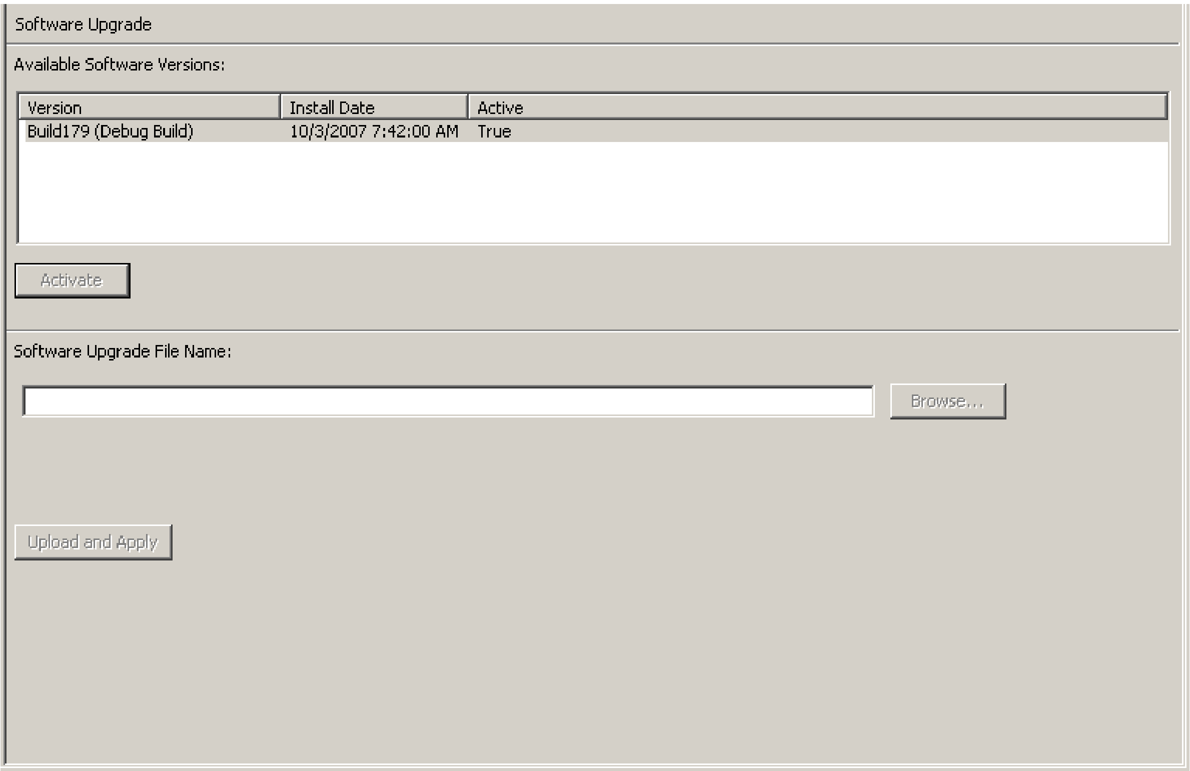
The Software Upgrade menu option allows the Operator to upload a software upgrade file to the KMA and immediately apply the upgrade. The software updates are signed by Sun and verified by the KMA before they are applied.

Note – Before you execute this function, you should backup your system. For procedures, refer to "Creating a Backup" on page 261.

Uploading and Applying Software Upgrades

To upgrade the KMA:

1. From the Local Configuration menu, select **Software Upgrade**. The Software Upgrade screen is displayed.



Version	Install Date	Active
Build179 (Debug Build)	10/3/2007 7:42:00 AM	True

2. In the Software Upgrade File Name field, type the name of the software upgrade file. You can also choose the Browse button to locate the file. Choose the OK button to return to the Software Upgrade screen. Choose the Upload and Apply button.
3. A message is displayed, indicating that the file was successfully uploaded.
4. A message is displayed, indicating that the upgrade file is being applied.

5. To activate the upgrade file, select the new version from the list of available versions at the top of the screen and click on the **Activate** button. Until activated, the new version will remain inactive on the system.

Backup List Menu

For procedures on viewing a Backup file's detailed information, refer to "Backup List Menu" on page 257.

Audit Event List Menu

For procedures to view an audit event list, refer to "Audit Event List Menu" on page 219.

KMA List Menu

For procedures to view the list of KMAs, refer to "KMA List Menu" on page 87.

Site List Menu

For procedures to view a list of sites, refer to "Site List Menu" on page 110.

SNMP Manager List Menu

For procedures to view the list of SNMP managers, refer to "SNMP Manager List Menu" on page 118.

System Time Menu

For procedures on viewing the KMA's time, refer to "System Time Menu" on page 173.

Lock/Unlock KMA Menu

For procedures on viewing the KMA locking status, refer to "Lock/Unlock KMA" on page 169.

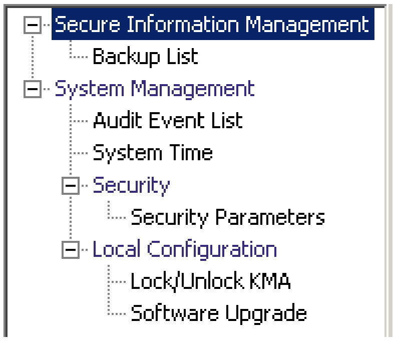
CHAPTER 8

Backup Operator Operations

This chapter describes the operations that a user who has been given a Backup Operator role can perform. If you have been assigned other roles, refer to the appropriate chapter for instructions on performing the specific role.

Backup Operator Role

As the Backup Operator, you are responsible for securing and storing data and their keys.



Backup List Menu

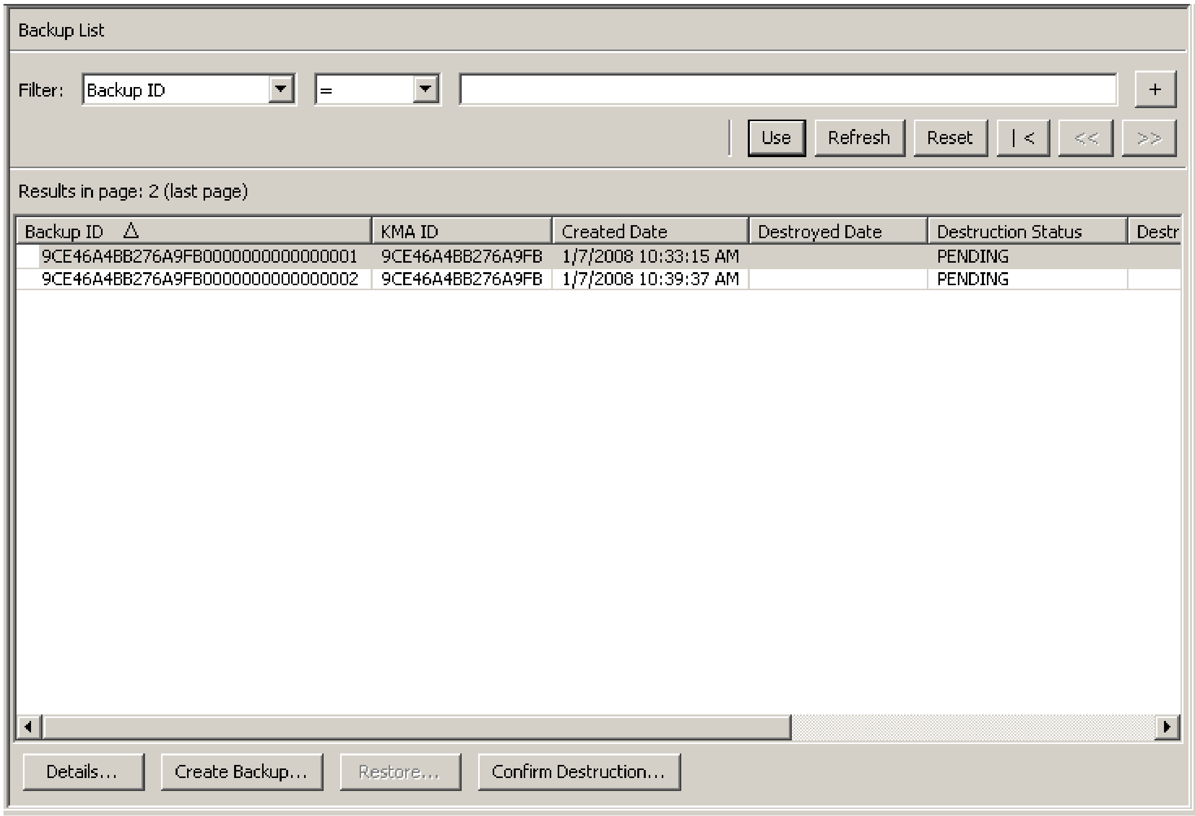
The Backups List menu option allows the Backup Operator to:

- View the history of the Backups and confirm their destruction status
- Create Backups.

Viewing Backup Files History

To view Backup files history:

From the Backups menu, select **Backup List**. The Backup List screen is displayed.



Filter: Backup ID =

Results in page: 2 (last page)

Backup ID △	KMA ID	Created Date	Destroyed Date	Destruction Status	Destr
9CE46A4BB276A9FB0000000000000001	9CE46A4BB276A9FB	1/7/2008 10:33:15 AM		PENDING	
9CE46A4BB276A9FB0000000000000002	9CE46A4BB276A9FB	1/7/2008 10:39:37 AM		PENDING	

If you want more detailed information on a Backup, highlight the Backup and choose the Details button. For more information, refer to "Viewing Backup Details".

Choose the Create Backup button to create a Backup. For more information, refer to "Creating a Backup" on page 261.

Choose the Confirm Destruction button to confirm the destruction of a Backup. For more information, refer to "Confirming a Backup's Destruction" on page 262.

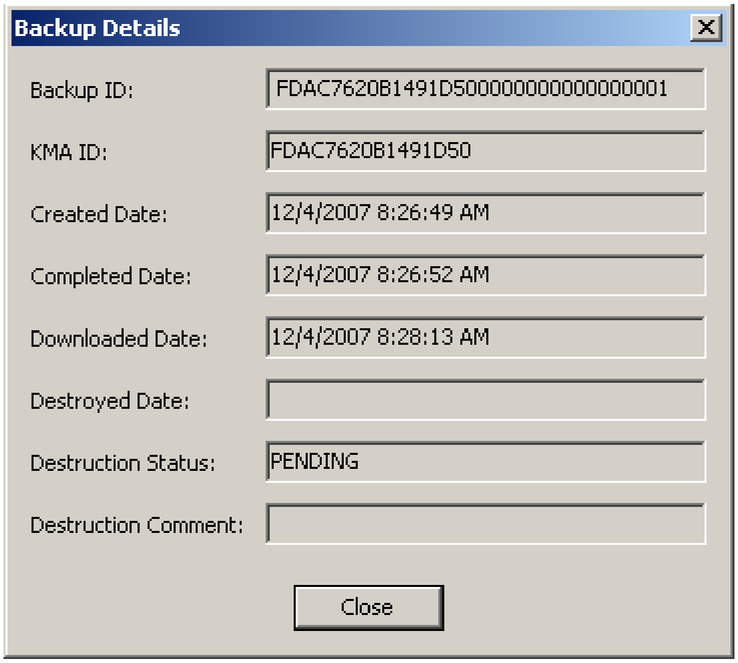
Viewing Backup Details

The Backup Details dialog box is used to view the details of a Backup file.

Note – Backup files are downloaded to the machine where the KMS Manager is running when the backup is created.

To view the details of a Backup file:

1. From the Backups List screen, double-click the Backup entry for which you want more information or highlight the Backup entry and choose the Details button. The Backup Details dialog box is displayed, with all fields disabled.



Backup Details

Backup ID: FDAC7620B1491D50000000000000000001

KMA ID: FDAC7620B1491D50

Created Date: 12/4/2007 8:26:49 AM

Completed Date: 12/4/2007 8:26:52 AM

Downloaded Date: 12/4/2007 8:28:13 AM

Destroyed Date:

Destruction Status: PENDING

Destruction Comment:

2. The fields and their descriptions are given below:

Backup ID

Displays a system-generated unique identifier that distinguishes each Backup file.

KMA ID

Displays the KMA on which this Backup file is generated.

Created Date

Displays the date and time when the Backup file was created.

Completed Date

Displays the date and time when the Backup file was completed.

Downloaded Date

Displays the date and time the Backup file was downloaded.

Destroyed Date

Displays the date when the Backup file was destroyed.

Destruction Status

Indicates the status of the backup with respect to its destruction.

Destruction Comment

Displays user-supplied information on the Backup file's destruction.

3. Choose the Close button to close this dialog box.

Creating a Backup

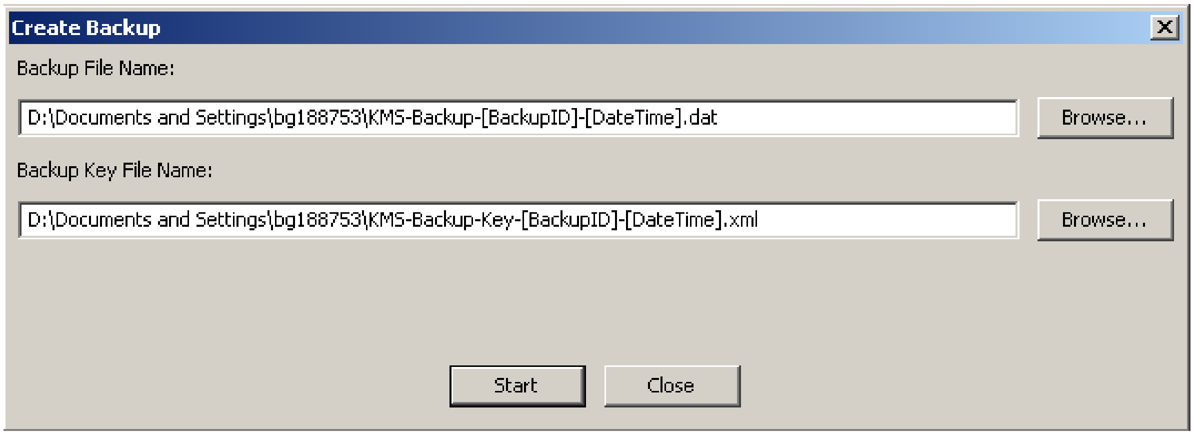
Important – The Security Officer must back up Core Security Key material before the Backup Officer can create a backup. See "Creating a Core Security Backup" on page 161.

At any given time, there is only one Backup file and one Restore file on a KMA.

This option gives the user the ability to create a Backup that consists of two files: a Backup file and a Backup key file.

To create a Backup:

1. From the Backup List screen, choose the Create Backup button. The Create Backup dialog box is displayed.



Create Backup

Backup File Name:

D:\Documents and Settings\bg188753\KMS-Backup-[BackupID]-[DateTime].dat

Backup Key File Name:

D:\Documents and Settings\bg188753\KMS-Backup-Key-[BackupID]-[DateTime].xml

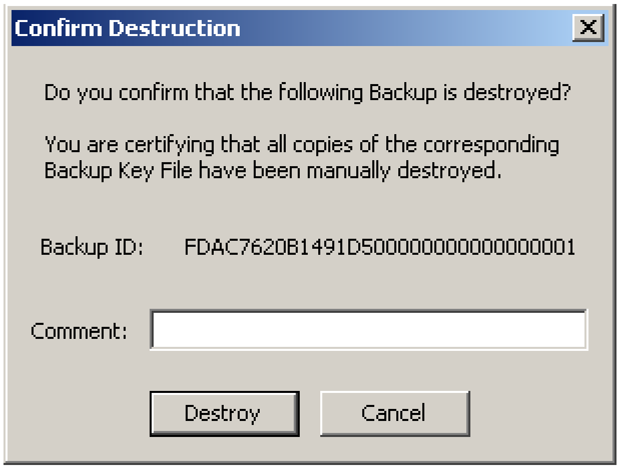
Note – Backup File and Backup Key File names are automatically generated. You can, however, edit the names. You can also choose the Browse button to select a destination path.

2. Choose the Start button to create the Backup file and download the Backup key file to the user-specified destination.
3. When the Backup is completed, a message indicating this is displayed. Choose the Close button to close this dialog box.
4. You are returned to the Backup List screen, where the new created Backup File is displayed.

Confirming a Backup's Destruction

To confirm a backup's destruction:

1. From the Backup List screen, highlight the Backup you want to destroy and choose the Confirm Destruction button. The following dialog box is displayed, confirming that you want to update the destruction status for the selected Backup. Before proceeding, ensure that all copies of the corresponding Backup Key file have been manually destroyed.



Do you confirm that the following Backup is destroyed?

You are certifying that all copies of the corresponding Backup Key File have been manually destroyed.

Backup ID: FDAC7620B1491D500000000000000001

Comment:

2. If you are certain that all copies of the corresponding backup key file have been manually destroyed, choose the Yes button. Otherwise, choose the No button to stop the process.
3. If you chose the Yes button, the backup and the Data Units that were associated with it are 'completely destroyed'.

Other Functions

A Backup Operator can also:

- View Audit Event List
- View the System time
- View the KMA locking status.

For procedures on viewing the Audit Log, refer to "Audit Event List Menu" on page 219.

For procedures on viewing the KMA's time, refer to "System Time Menu" on page 173.

For procedures on viewing the KMA locking status, refer to "Lock/Unlock KMA" on page 169.

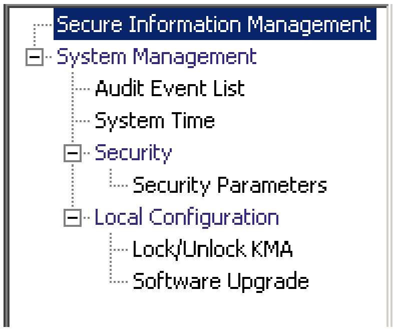
CHAPTER 9

Auditor Operations

This chapter describes the operations that a user who has been given an Auditor role can perform. If you have been assigned other roles, refer to the appropriate chapter for instructions on performing the specific role.

Auditor Role

As the Auditor, you can view the Audit List events and the KMA.



Audit List Menu

For procedures on using the Audit List menu, refer to "Audit Event List Menu" on page 219.

Security Parameters Menu

The Security Parameters List menu gives the Auditor the ability to view the KMA's security parameters. For procedures on using the Security Parameters menu, refer to "Security Parameters Menu" on page 156.

Other Functions

An Auditor can also:

- View the Lock/Unlock the KMA status.
- View the system time

For procedures on viewing the lock/unlock KMA status, refer to "Lock/Unlock KMA" on page 169.

For procedures on adjusting the KMA's time, refer to "System Time Menu" on page 173.

For procedures on viewing the installed software versions, refer to "Software Upgrade Menu" on page 253.

CHAPTER 10

Using the KMS Console

This chapter describes the options in the KMS Console.

What is the KMS Console?

The KMS Console is a terminal text-based interface that allows a user to configure basic function of the KMA. It is accessed by physically connecting a video monitor and keyboard to the KMA or by the "remote console" function in the ELOM web browser interface (see "Starting the Embedded Light Out Manager (ELOM)" on page 20).

The KMS Console automatically launched by the operating system when the KMA boots up and cannot be terminated by a user. Depending on the roles that a user is assigned, the options in the KMS Console differ.

Before a user can login to the KMS Console, the user accounts must be created in the KMS Manager. The user must use the same username/passphrase that was used for authentication in the KMS to login to the KMS Console.

Note – Only the first Security Officer account is created when the QuickStart program is launched.

Logging into the KMA

After the KMA boots up, the following information is displayed.

```
Sun Microsystems, Inc.
Key Management System Version xxx
-------------------------------------------------------------
Please enter your User ID:
```

1. At the prompt, type your username and press **<Enter>**.
2. At the `Please enter your Passphrase:` prompt, type your passphrase and press **<Enter>**. Depending on the role(s) the user is assigned, the options on the KMS Console differ. The menu shows the version of the KMA and the logged on user.

User role operations are discussed on the following pages. They include:

- Operator (see "Operator Role Functions" on page 272)
- Security Officer (see "Security Officer Role Functions" on page 279)
- Other Roles (see "Other Role Functions" on page 295)

Operator

The following menu illustrates the options for an Operator role.

```
Key Management System Version xxx (KMA1)
------------------------------------------------------------
Please enter your User ID: OP

Please enter your Passphrase:

Key Management System Version xxx (OP on KMA1)
------------------------------------------------------------

(1)  Reboot KMA
(2)  Shutdown KMA
(3)  Technical Support
(4)  Primary Administrator
(5)  Set Keyboard Layout
(0)  Logout
------------------------------------------------------------
Please enter your choice:
```

Security Officer

The following menu illustrates the options for an Security Officer role.

```
Key Management System Version xxx (KMA1)
------------------------------------------------------------
Please enter your User ID: SO

Please enter your Passphrase:

Key Management System Version xxx (SO on KMA1)
------------------------------------------------------------


(1)  Log KMA into Cluster
(2)  Set User's Passphrase
(3)  Set KMA IP Addresses
(4)  Reset to Factory Default State
(5)  Technical Support
(6)  Primary Administrator
(7)  Set Keyboard Layout
(0)  Logout
------------------------------------------------------------
Please enter your choice:
```

Note – If the user has been assigned both Operator and Security roles, then the menu options are combined as follows:

```
Key Management System Version xxx (KMA1)
------------------------------------------------------------
Please enter your User ID:

Please enter your Passphrase:

Key Management System Version xxx (xx on KMA1)
------------------------------------------------------------

(1)  Log KMA into Cluster
(2)  Set User's Passphrase
(3)  Set KMA IP Addresses
(4)  Reset to Factory Default State
(5)  Reboot KMA
(6)  Shutdown KMA
(7)  Technical Support
(8)  Primary Administrator
(9)  Set Keyboard Layout
(0)  Logout
------------------------------------------------------------
Please enter your choice:
```

Other Roles

For all other roles, that is, Backup Operator, Compliance Officer, and Auditor, a menu that is similar to the following is displayed. The only options available are to logout from the KMA and to set the keyboard layout.

```
Key Management System Version xxx (co1)
------------------------------------------------------------

(1)  Set Keyboard Layout
(0)  Logout

------------------------------------------------------------
Please enter your choice:
```

Operator Role Functions

This section describes the functions that an Operator can perform. They are:

- Rebooting the KMA
- Shutting down the KMA
- Enabling/disabling Technical Support
- Disabling the Primary Administrator
- Setting the keyboard layout
- Logging out of the KMA.

The Operator's menu is shown below.

```
Key Management System Version xxx (KMA1)
------------------------------------------------------------
Please enter your User ID: OP

Please enter your Passphrase:

Key Management System Version xxx (OP on KMA1)
------------------------------------------------------------


(1)  Reboot KMA
(2)  Shutdown KMA
(3)  Technical Support
(4)  Primary Administrator
(5)  Set Keyboard Layout
(0)  Logout
------------------------------------------------------------
Please enter your choice:
```

Note – The Technical Support and Primary Administrator menu items appear only when their settings are currently enabled.

Rebooting the KMA

The Reboot KMA menu option allows an operator to stop and restart the KMA and reboot the operating system. This function is for troubleshooting purposes only.

To reboot the KMA:

1. At the `Please enter your choice:` prompt on the main menu, type **1** and press <Enter>. The following information is displayed, indicating that the support account is enabled.

```
Reboot KMA
------------------------------------------------------------
Press Ctrl-c to abort.
Are you sure that you want to reboot the KMA? [y/n]:
```

2. At the prompt, type **y** and press <Enter>. The current KMS Console session terminates as the KMA starts to reboot. After the KMA reboots, the KMS Console login prompt is displayed.

Shutting Down the KMA

This option allows you to terminate (shut down) all services on the KMA and to physically shut down the KMA itself.

To shut down the KMA:

1. At the `Please enter your choice:` prompt on the main menu, type **2** and press <Enter>. The following information is displayed, indicating that the support account is enabled.

```
Shutdown KMA
------------------------------------------------------------
Press Ctrl-c to abort
Are you sure that you want to shut down the KMA? [y/n]:
```

2. At the prompt, type **y** and press <Enter>. The following information is displayed, indicating that the system is shutting down.

```
Shutting down...
```

3. The shutdown sequence is displayed. When it is finished, the following information is displayed.

```
Power down.
```

4. The KMA is now powered off. The KMA can be powered on using either the power button or the ELOM remote power control function.

Enabling the Technical Support Account

The Technical Support menu option allows an operator to enable/disable the Operating System's support account and SSH access for that account. By default, both the Technical Support account and SSH access are disabled. Since the passphrase for the support account is only known by Sun Support, enabling of this account does not grant the Console user any further access to the KMA.

1. To enable the Technical Support account:

At the `Please enter your choice:` prompt on the main menu, type **3** and press <Enter>. The following information is displayed, indicating that the support account is disabled.

```
Technical Support
------------------------------------------------------------
Press Ctrl-c to abort.
Please refer to accompanying user documentation for Technical
Support contact information.
The support account is currently DISABLED.
************************* IMPORTANT *************************
Enabling the support account and SSH access is a security
risk. These should not be left enabled unless required for
troubleshooting purposes.
Ensure that this account is disabled when not required.
*************************************************************
Would you like to ENABLE this account? [y/n]:
```

2. At the prompt, type **y** and press <Enter>. The following information is displayed, prompting you to confirm the change.

```
Are you sure that you want to commit these changes? [y/n]:
```

3. At the prompt, type **y** and press <Enter>. The following information is displayed, indicating that the account is enabled. Press <Enter> to return to the main menu.

```
Press Enter to continue:
```

Disabling the Technical Support Account

To disable the Technical Support account:

1. At the `Please enter your choice:` prompt on the main menu, type **3** and press <Enter>. The following information is displayed, indicating that the support account is enabled.

```
Technical Support
------------------------------------------------------------
Press Ctrl-c to abort.
Please refer to accompanying user documentation for Technical
Support contact information.
The support account is currently ENABLED.
************************* IMPORTANT *************************
Enabling the support account and SSH access is a security
risk. These should not be left enabled unless required for
troubleshooting purposes.
Ensure that this account is disabled when not required.
*************************************************************
Would you like to DISABLE this account? [y/n]:
```

2. At the prompt, type **y** to disable the account and press <Enter>.
3. The following information is displayed, prompting you to confirm the change.

```
Are you sure that you want to commit these changes? [y/n]:
```

4. At the prompt, type **y** and press <Enter>. The SSH service automatically stops.

Disabling the Primary Administrator

The Primary Administrator menu option allows you to enable/disable Primary Administrator access on the KMA.

Note – This task can be *enabled* only by the Security Officer; it can be *disabled* by either an Operator or a Security Officer.

Disabling Primary Administrator access takes place immediately. If someone is connected as a Primary Administrator, and then this access is disabled, the next command they attempt will fail.

1. To disable Primary Administrator access:

At the `Please enter your choice:` prompt on the main menu, type **4** and press <Enter>. The following information is displayed, indicating that the access is enabled.

```
Primary Administrator
------------------------------------------------------------

Press Ctrl-c to abort.

The Primary Administrator role is currently ENABLED.

Would you like to DISABLE Primary Administrator privileges for the
support account? [y/n]: y

Are you sure that you want to DISABLE these privileges for the
support account? [y/n]: y

Primary Administrator configuration changes have been completed.

Press Enter to continue:
```

2. At the prompt, type **y** to disable the account and press <Enter>.

3. The following information is displayed, prompting you to confirm the change.

```
Are you sure that you want to DISABLE these privileges for the
support account? [y/n]:
```

4. At the prompt, type **y** and press <Enter>. The Primary Administrator access has been disabled.

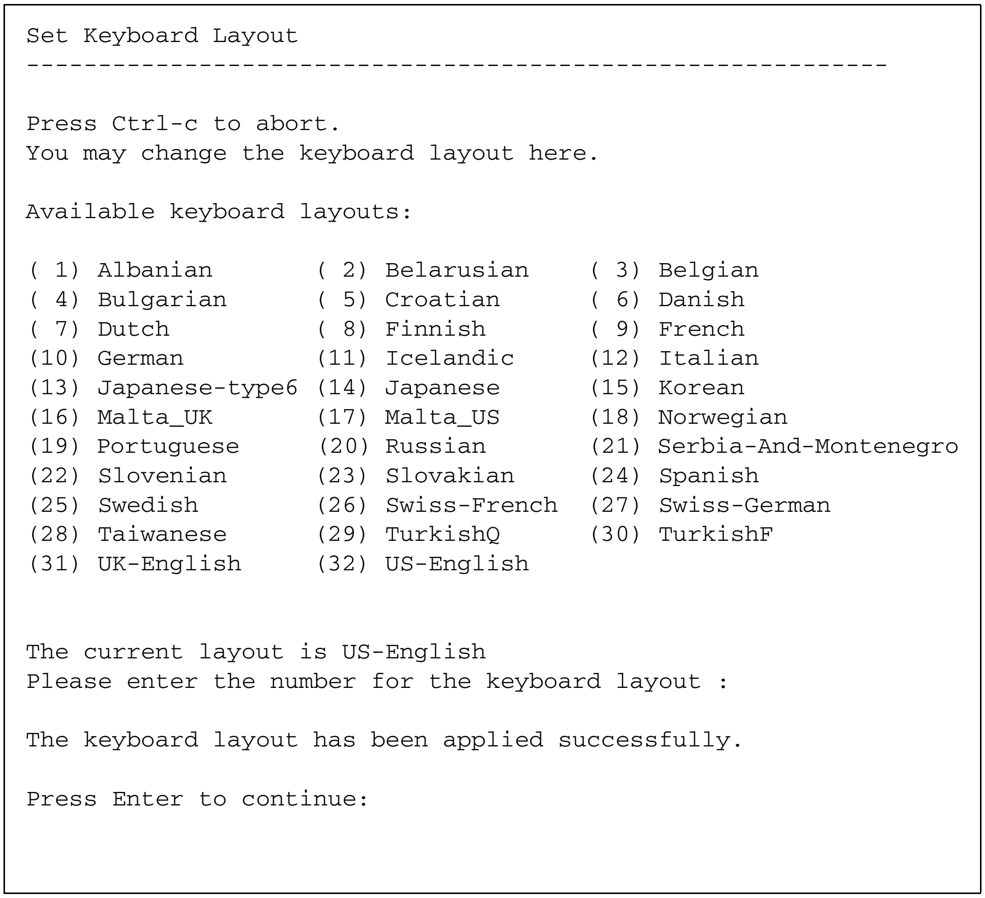
Setting the Keyboard Layout

This option allows you to change the keyboard layout from English to a variety of languages.

Note – The keyboard layout should be set to match the layout of the keyboard attached to the KMA in order for the KMA to correctly interpret key presses.

To set the keyboard layout:

1. At the `Please enter your choice:` prompt on the main menu, type **5** and press <Enter>. The following keyboard layouts are displayed.



```
Set Keyboard Layout
------------------------------------------------------------

Press Ctrl-c to abort.
You may change the keyboard layout here.

Available keyboard layouts:

( 1) Albanian       ( 2) Belarusian    ( 3) Belgian
( 4) Bulgarian      ( 5) Croatian      ( 6) Danish
( 7) Dutch          ( 8) Finnish       ( 9) French
(10) German         (11) Icelandic     (12) Italian
(13) Japanese-type6 (14) Japanese      (15) Korean
(16) Malta_UK       (17) Malta_US      (18) Norwegian
(19) Portuguese     (20) Russian       (21) Serbia-And-Montenegro
(22) Slovenian      (23) Slovakian     (24) Spanish
(25) Swedish        (26) Swiss-French  (27) Swiss-German
(28) Taiwanese      (29) TurkishQ      (30) TurkishF
(31) UK-English     (32) US-English


The current layout is US-English
Please enter the number for the keyboard layout :

The keyboard layout has been applied successfully.

Press Enter to continue:
```

2. At the `Please enter the number for the keyboard layout:` prompt, enter the number you want to change the keyboard layout to. The new keyboard layout is applied.

3. The following information is displayed. `Press <Enter> to continue.`

Logging Out

To log out of the current KMS Console session:

1. At the `Please enter your choice:` prompt on the main menu, type **0** and press <Enter>.
2. The current session terminates and the login prompt is displayed allowing the user to re-enter the KMS Console.

Security Officer Role Functions

This section describes the functions that a Security Officer can perform. They are:

- Logging the KMA into the Cluster
- Setting a User's Passphrase
- Setting the KMA IP addresses
- Resetting the KMA to the Factory Default State
- Enabling/Disabling Technical Support
- Enabling/Disabling the Primary Administrator
- Setting the keyboard layout
- Logging out of the KMA.

The Security Officer's menu is shown below.

```
Key Management System Version xxx (KMA1)
------------------------------------------------------------
Please enter your User ID: SO

Please enter your Passphrase:

Key Management System Version xxx (SO on KMA1)
------------------------------------------------------------

(1)  Log KMA into Cluster
(2)  Set User's Passphrase
(3)  Set KMA IP Addresses
(4)  Reset to Factory Default State
(5)  Technical Support
(6)  Primary Administrator
(7)  Set Keyboard Layout
(0)  Logout
------------------------------------------------------------
Please enter your choice:
```

Logging the KMA into the Cluster

This menu option allows a Security Officer to log the KMA back into the cluster after its passphrase has been changed. Before you can perform this task:

1. Bring up the KMS Manager.
2. Log in to an existing KMA as a Security Officer.
3. Navigate to the KMA List panel.
4. Create a KMA entry.

To log the KMA into the Cluster:

1. At the `Please enter your choice:` prompt on the main menu, type **1** and press <Enter>. The following information is displayed.

```
Log KMA into Cluster
------------------------------------------------------------
Press Ctrl-c to abort.
Please enter the Management Network IP Address of an existing
KMA in the cluster:

The KMA Passphrase is a Passphrase that you have
previously configured for this KMA to join a Cluster.

Please enter this KMA’s Passphrase:
```

2. Log in to an existing KMA (for example, 129.80.60.172) as a Security Officer.
3. At the prompt, type the passphrase that was originally configured for the KMA, to join the Cluster and press <Enter>.

```
This command requires authorization by a quorum of Key
Split Users. Enter sufficient Key Split credentials to form
a quorum. Enter a blank name to finish.

Press Ctrl-c to abort.
Please enter Key Split User Name #1:

Please enter Key Split Passphrase #1:

Press Enter to continue:
```

4. Enter the first Key Split user name established during QuickStart for the first KMA in the KMS Manager Modify Key Split Credentials function (refer to “Modifying the Key Split Configuration” on page 164).

Note – The Security Officer needs to know how many Key Split users to enter, that is, what the Key Split Threshold is. In this example, the Key Split Threshold is 2.

---

5. Type the passphrase for the Key Split user, and press <Enter>.

```
This command requires authorization by a quorum of Key
Split Users. Enter sufficient Key Split credentials to form
a quorum. Enter a blank name to finish.

Press Ctrl-c to abort.
Please enter Key Split User Name #2:

Please enter Key Split Passphrase #2:

Press Enter to continue:
```

6. Enter the second Key Split user name.
7. Type the passphrase for the Key Split user, and press <Enter>

```
This command requires authorization by a quorum of Key
Split Users. Enter sufficient Key Split credentials to form
a quorum. Enter a blank name to finish.

Press Ctrl-c to abort.
Please enter Key Split User Name #3:

Are you sure that you want to log the KMA back into the Cluster?
[y/n]: n

Press Enter to continue:
```

8. Press <enter> next to Key Split User Name #3 to end Key Split user authorization.
9. Type **n**, and press <Enter>.

Setting a User’s Passphrase

This menu option allows a Security Officer to set the passphrase for any user, including the Security Officer.

To set a user’s passphrase:

1. At the `Please enter your choice:` prompt on the main menu, type **2** and press <Enter>. The following information is displayed.

```
Set User’s Passphrase
------------------------------------------------------------
Press Ctrl-c to abort.
Please enter the User Name:
```

2. At the prompt, type the name of the user and press <Enter>. The following information is displayed.

```
Passphrases must be at least 8 characters and at most 64
characters in length.
Passphrases must not contain the User’s User Name.
Passphrases must contain characters from 3 of 4 character
classes (uppercase, lowercase, numeric, other).

Please enter the desired Passphrase:

Please re-enter the desired Passphrase:

Press Enter to continue:
```

3. At the prompt, type the passphrase and press <Enter>.
4. At the `Please re-enter the desired Passphrase:` prompt, type the same passphrase and press <Enter>. The following information is displayed, indicating that the passphrase is set. Press <Enter> to return to the main menu.

```
Press Enter to continue:
```

Setting the KMA IP Addresses

This option modifies the IP address settings for the KMA. Initially, this information is set in the QuickStart program (see "Setting the IP Address" on page 27), and can be changed here.

Note that in a large, multi-site cluster, drives may only have connections to a subset of all the KMAs in the cluster. This caution applies to the set of KMAs the drive can connect to.

Caution – This function should be used carefully. If you change the information for one KMA, all the other KMAs receive the updates immediately, assuming they are connected. If the KMA is disconnected, it updates the other KMAs when it is able to reconnect.

However, if for example you have two KMAs that are not connected to each other (network outage), and you change both IP addresses, they will not be able to reconnect when the network is repaired.

In this case, you must use the "*Logging the KMA into the Cluster*" function on one KMA to reconnect it with the other, and the Passphrase must be updated first. For example, if KMAs A and B are disconnected, and you change both IP addresses, then you must log into A and change B's passphrase. Then log into B's console and use the "*Logging the KMA into the Cluster*" function to re-attach it to A.

Care must also be taken with tape drives. Tape drives do not automatically receive the updated IP information; they only get updated IP information when a tape is mounted. Thus, if you are in a typical environment where tape jobs only run at night, and you change all the KMA's IP addresses during the day, the drives will not be able to communicate with any KMA. If this happens, the drives must be re-enrolled with the KMS Cluster. To avoid this, change KMA IP addresses one at a time, wait for all drives to receive the change, then change the next.

To set the KMA IP addresses:

1. At the `Please enter your choice:` prompt on the main menu, type **3** and press <Enter>. The current settings are displayed.

```
Set KMA IP Addresses
------------------------------------------------------------



Press Ctrl-c to abort.

An IP Address configuration must be defined in order for
the KMA to communicate with other KMAs, Agents, or Users
in your system.

Current settings:
  Management Hostname    : balblair
  Management IP Address  : 10.80.41.5
  Management Subnet Mask : 255.255.254.0

  Service Hostname       : balblairsvc
  Service IP Address     : 192.168.5.1
  Service Subnet Mask    : 255.255.255.0

  Gateway IP Address     : 10.80.41.254
  DNS IP Address         : 10.80.0.4
  DNS Domain             : stortek.com

Please enter the Management Network Hostname: balblair

Do you want to use DHCP to configure the Management Network
interface? [y/n]:

Please enter the Management Network IP Address: 10.80.41.5

Please enter the Management Network Subnet Mask: 255.255.254.0

Please enter the Service Network Hostname: balblairsvc

Do you want to use DHCP to configure the Service Network interface?
[y/n]:

Please enter the Service Network IP Address: 192.168.5.1

Please enter the Service Network Subnet Mask: 255.255.255.0

Please enter the Gateway IP Address (optional but necessary
if this KMA is to communicate with an entity on a different
IP Subnet): 10.80.41.254

Please enter the Primary DNS Server IP Address (optional):
10.80.0.4

Please enter the DNS Domain: stortek.com

Are you sure that you want to commit these changes? [y/n]: y

Press Enter to continue:
```

2. Enter the Management Network Hostname.
3. Type either **n** or **y** at the `Do you want to use DHCP to configure the Management Network interface` prompt. If you type **n**, go to Step 4. If you type **y**, go to Step 6.
4. At the prompt, type the Management Network IP address and press <Enter>.
5. At the `Please enter the Management Network Subnet Mask:` prompt, type the subnet mask address, (for example **255.255.254.0**) and press <Enter>.
6. Enter the Service Network Hostname and press <Enter>.
7. Type either **n** or **y** at the `Do you want to use DHCP to configure the Service Network interface` prompt. If you type **n**, go to Step 8. If you type **y**, go to Step 10.
8. At the prompt, type the Service Network IP address and press <Enter>.
9. At the `Please enter the Service Network Subnet Mask:` prompt, type the subnet mask address, (for example **255.255.255.0**) and press <Enter>.
10. Enter the Gateway IP Address and press <Enter>.
11. At the `Please enter the Primary DNS Server IP Address (optional):` prompt, type a value and press <Enter>.
12. Enter the DNS Domain and press <Enter>.
13. Type **y** at the `Are you sure that you want to commit these changes? [y/n]:` prompt.

Note – If at any time the user presses Ctrl+c, no changes are saved and the user is returned to the main menu. Changes are only accepted when the user confirms the operation, by typing y at the final prompt. After typing y, the user is returned to the main menu.

Resetting the KMA to the Factory Default

This menu option allows a Security Officer to reset the KMA to its factory default state.

Warning – The reset is not recoverable; the information on the KMA is gone.

This is a destructive process that results in the loss of all data that is stored on the hard disk. The system is forced to reboot and the file systems are reformatted and prepared to use the new encryption keys.

To reset the KMA to the factory default:

1. At the `Please enter your choice:` prompt on the main menu, type **4** and press <Enter>. The following information is displayed.

```
Reset to Factory Default State
------------------------------------------------------------

Press Ctrl-c to abort.

WARNING:
All information stored on this KMA will be destroyed!
Access to all protected data will be lost unless a backup
of the KMA data has been created or Cluster Peer
KMAs are present.
Please consult the Administrative Guide before proceeding
with this operation.

The system will be rebooted after performing the reset.

Zeroize KMA before resetting (this process will take approximately
4 hours) [y/n]:

Are you sure that you want to reset the KMA to the
Factory Default State?

Type RESET to confirm: no

Press Enter to continue:
```

Warning – All information on this KMA will be destroyed. Access to all protected data will be lost unless a backup of the KMA's data has been created or Cluster Peer KMAs are present.

---

2. At the `Zeroize KMA before resetting` prompt, enter either **n** or **y**. If you enter **y**, this will securely wipe all information off the hard drive.

Note – This operation takes approximately four hours.

---

3. At the `Type RESET to confirm` prompt, type RESET and press <Enter>. The following information is displayed, indicating that the KMA is resetting.

```
Resetting...
```

4. Once the authentication is completed, you are returned to QuickStart. See "Running the QuickStart Program" on page 25.

Enabling the Technical Support Account

The Technical Support menu option allows an operator to enable/disable the Operating System's support account and SSH access for that account. By default, both the Technical Support account and SSH access are disabled. Since the passphrase for the support account is only known by Sun Support, enabling of this account does not grant the Console user any further access to the KMA.

1. To enable the Technical Support account:

At the `Please enter your choice:` prompt on the main menu, type **5** and press <Enter>. The following information is displayed, indicating that the support account is disabled.

```
Technical Support
------------------------------------------------------------
Press Ctrl-c to abort.
Please refer to accompanying user documentation for Technical
Support contact information.
The support account is currently DISABLED.
************************* IMPORTANT *************************
Enabling the support account and SSH access is a security
risk. These should not be left enabled unless required for
troubleshooting purposes.
Ensure that this account is disabled when not required.
*************************************************************
Would you like to ENABLE this account? [y/n]:
```

2. At the prompt, type **y** to enable the account and press <Enter>. The following information is displayed, indicating that the SSH access is disabled. Enabling SSH access allows Technical Support to diagnose a problem remotely.

```
SSH access for the support account is currently DISABLED.
Enabling SSH access for the support account allows a
Technical Support representative to connect to the KMA
from a remote location in order to diagnose a potential
problem.
Would you like to ENABLE SSH access for the support account? [y/n]:
```

3. At the prompt, type **y** and press <Enter>. The following information is displayed, indicating the purpose of SSH Host keys.

```
When a Technical Support representative connects to the
KMA using SSH, SSH host keys must be verified via an
alternative secure communication channel in order to detect
a potential “man-in-the-middle” attack.
Please record and store these SSH host keys securely.

SSH host keys are generated when SSH is enabled for the
first time. They may be subsequently regenerated to invalidate
the existing SSH host keys.

Would you like to regenerate the SSH host keys? [y/n]:
```

4. At the prompt, type **y** and press <Enter>. The following information is displayed, prompting you to confirm the change.

```
Are you sure that you want to commit these changes? [y/n]:
```

5. At the prompt, type **y** and press <Enter>. The following information is displayed, indicating that the account is enabled. Press <Enter> to return to the main menu.

```
Press Enter to continue:
```

Disabling the Technical Support Account

To disable the Technical Support account:

1. At the `Please enter your choice:` prompt on the main menu, type **5** and press <Enter>. The following information is displayed, indicating that the support account is enabled.

```
Technical Support
------------------------------------------------------------
Press Ctrl-c to abort.
Please refer to accompanying user documentation for Technical
Support contact information.
The support account is currently ENABLED.
************************* IMPORTANT *************************
Enabling the support account and SSH access is a security
risk. These should not be left enabled unless required for
troubleshooting purposes.
Ensure that this account is disabled when not required.
*************************************************************
Would you like to DISABLE this account? [y/n]:
```

2. At the prompt, type **y** to disable the account and press <Enter>.
3. The following information is displayed, prompting you to confirm the change.

```
Are you sure that you want to commit these changes? [y/n]:
```

4. At the prompt, type **y** and press <Enter>. The SSH service automatically stops.

Enabling the Primary Administrator

The Primary Administrator menu option allows you to enable/disable Primary Administrator access on the KMA.

- To enable Primary Administrator access, you must first enable Technical Support (option 5).
- This task can be *enabled* only by the Security Officer; it can be *disabled* by either an Operator or a Security Officer.

Caution – The Primary Administrator function allows someone logged in as Technical Support to gain Primary Administrator access, equivalent to root access. While dangerous, this may be necessary in some situations to recover the system from a problem, however, you may need direct guidance from back line support or engineering.

---

1. To enable Primary Administrator access:

At the `Please enter your choice:` prompt on the main menu, type **6** and press <Enter>. The following information is displayed, indicating that the access is disabled.

```
Primary Administrator
------------------------------------------------------------

Press Ctrl-c to abort.

The Primary Administrator role is currently DISABLED.

************************** WARNING *************************
Providing the support account with Primary Administrator
privileges
is a security risk.  This setting should not be left enabled unless
required for troubleshooting purposes.

Ensure that these privileges are disabled when not required.
************************************************************

Would you like to ENABLE Primary Administrator privileges for the
support account? [y/n]: y

Are you sure that you want to ENABLE these privileges for the
support account, assuming this security risk? [y/n]: y

Primary Administrator configuration changes have been completed.

Press Enter to continue:
```

2. At the prompt, type **y** to enable the account and press <Enter>.

3. The following information is displayed, prompting you to confirm the change.

```
Are you sure that you want to ENABLE these privileges for the
support account, assuming this security risk? [y/n]:
```

4. At the prompt, type **y** and press <Enter>. The Primary Administrator access has been enabled.

Disabling the Primary Administrator

The Primary Administrator menu option allows you to enable/disable Primary Administrator access on the KMA.

Note – This task can be *enabled* only by the Security Officer; it can be *disabled* by either an Operator or a Security Officer.

Disabling Primary Administrator access takes place immediately. If someone is connected as a Primary Administrator, and then this access is disabled, the next command they attempt will fail.

1. To disable Primary Administrator access:

At the `Please enter your choice:` prompt on the main menu, type **6** and press <Enter>. The following information is displayed, indicating that the access is enabled.

```
Primary Administrator
------------------------------------------------------------

Press Ctrl-c to abort.

The Primary Administrator role is currently ENABLED.

Would you like to DISABLE Primary Administrator privileges for the
support account? [y/n]: y

Are you sure that you want to DISABLE these privileges for the
support account? [y/n]: y

Primary Administrator configuration changes have been completed.

Press Enter to continue:
```

2. At the prompt, type **y** to disable the account and press <Enter>.

3. The following information is displayed, prompting you to confirm the change.

```
Are you sure that you want to DISABLE these privileges for the
support account? [y/n]:
```

4. At the prompt, type **y** and press <Enter>. The Primary Administrator access has been disabled.

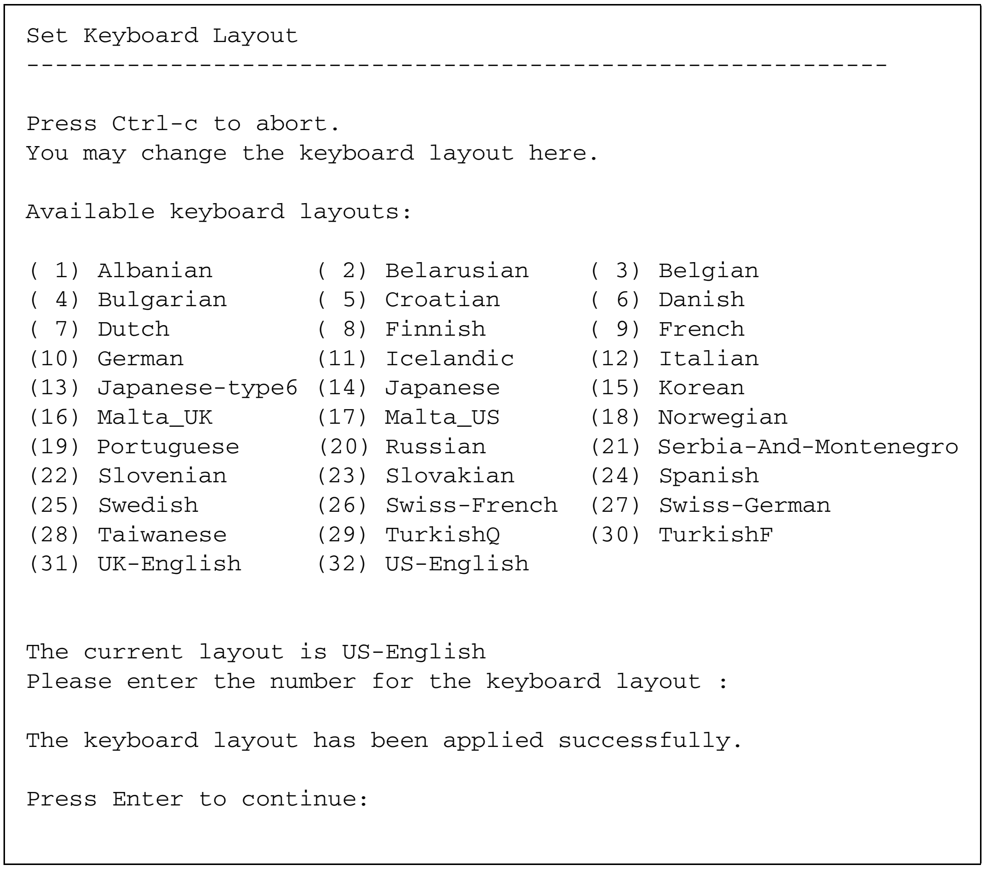
Setting the Keyboard Layout

This option allows you to change the keyboard layout from English to a variety of languages.

Note – The keyboard layout should be set to match the layout of the keyboard attached to the KMA in order for the KMA to correctly interpret key presses.

To set the keyboard layout:

1. At the `Please enter your choice:` prompt on the main menu, type **7** and press <Enter>. The following keyboard layouts are displayed.



```
Set Keyboard Layout
------------------------------------------------------------

Press Ctrl-c to abort.
You may change the keyboard layout here.

Available keyboard layouts:

( 1) Albanian       ( 2) Belarusian    ( 3) Belgian
( 4) Bulgarian      ( 5) Croatian      ( 6) Danish
( 7) Dutch          ( 8) Finnish       ( 9) French
(10) German         (11) Icelandic     (12) Italian
(13) Japanese-type6 (14) Japanese      (15) Korean
(16) Malta_UK       (17) Malta_US      (18) Norwegian
(19) Portuguese     (20) Russian       (21) Serbia-And-Montenegro
(22) Slovenian      (23) Slovakian     (24) Spanish
(25) Swedish        (26) Swiss-French  (27) Swiss-German
(28) Taiwanese      (29) TurkishQ      (30) TurkishF
(31) UK-English     (32) US-English


The current layout is US-English
Please enter the number for the keyboard layout :

The keyboard layout has been applied successfully.

Press Enter to continue:
```

2. At the `Please enter the keyboard layout [ US-English ] :` prompt, enter the language to want to change the keyboard layout to.

3. At the prompt, type **y** and press <Enter>. The following information is displayed, indicating that the change has been made. Press <Enter> to return to the main menu.

```
The keyboard layout has been applied successfully.

Press Enter to continue:
```

Logging Out

To log out of the current KMS Console session:

1. At the `Please enter your choice:` prompt on the main menu, type **0** and press <Enter>.
2. The current session terminates and the login prompt is displayed allowing the user to re-enter the KMS Console.

Other Role Functions

This section describes the functions the other roles (Compliance Officer, Backup Operator, Auditor) can perform. They are:

- Setting the keyboard layout
- Logging out of the KMA

```
Key Management System Version xxx (co1)
------------------------------------------------------------

(1)  Set Keyboard Layout
(0)  Logout

------------------------------------------------------------
Please enter your choice:
```

Setting the Keyboard Layout

This option allows you to change the keyboard layout from English to a variety of languages.

Note – The keyboard layout should be set to match the layout of the keyboard attached to the KMA in order for the KMA to correctly interpret key presses.

To set the keyboard layout:

1. At the `Please enter your choice:` prompt on the main menu, type **1** and press <Enter>. The following keyboard layouts are displayed.

```
Set Keyboard Layout
------------------------------------------------------------

Press Ctrl-c to abort.
You may change the keyboard layout here.

Available keyboard layouts:

( 1) Albanian       ( 2) Belarusian    ( 3) Belgian
( 4) Bulgarian      ( 5) Croatian      ( 6) Danish
( 7) Dutch          ( 8) Finnish       ( 9) French
(10) German         (11) Icelandic     (12) Italian
(13) Japanese-type6 (14) Japanese      (15) Korean
(16) Malta_UK       (17) Malta_US      (18) Norwegian
(19) Portuguese     (20) Russian       (21) Serbia-And-Montenegro
(22) Slovenian      (23) Slovakian     (24) Spanish
(25) Swedish        (26) Swiss-French  (27) Swiss-German
(28) Taiwanese      (29) TurkishQ      (30) TurkishF
(31) UK-English     (32) US-English


The current layout is US-English
Please enter the number for the keyboard layout :

The keyboard layout has been applied successfully.

Press Enter to continue:
```

2. At the `Please enter the keyboard layout [ US-English ] :` prompt, enter the language to want to change the keyboard layout to.

3. At the prompt, type **y** and press <Enter>. The following information is displayed, indicating that the change has been made. Press <Enter> to return to the main menu.

```
The keyboard layout has been applied successfully.

Press Enter to continue:
```

Logging Out

To log out of the current KMS Console session:

1. At the `Please enter your choice:` prompt on the main menu, type **0** and press <Enter>.
2. The current session terminates and the login prompt is displayed allowing the user to re-enter the KMS Console.

Glossary

A

Abnormal end of task (abend) A software or hardware problem that terminates a computer processing task.

Advanced Encryption Standard (AES) A FIPS-approved NIST cryptographic standard used to protect electronic data.

AES See Advanced Encryption Standard.

Agent Various types of encryption agents can be created to interact with the KMS for creating and obtaining keying material. The StorageTek T10000 models A and B, T9840D, and the HP LTO4 tape drives are types of encryption agents when enabled for encrypting.

Agent API See Agent Library API.

Agent Library The Agent Library is used by an Agent to retrieve key material from a KMS.

Agent Library API The API provided by the Agent Library. Agents call this API.

Audit See Audit Log.

Audit Log The KMS Cluster maintains a log of all auditable event occurring throughout the system. Agents may contribute entries to this log for auditable events.

Auditor A user role that can view system audit trails (Audit List events and KMA security parameters).

Autonomous Lock When autonomous unlock is enabled a quorum of Security Officers is required to unlock a locked KMA. When disabled, the KMA can be unlocked by any Security Officer.

B

Backup File The file created during the backup process that contains all the information needed to restore a KMA. Encrypted with a key generated specifically for the backup. The key is contained in the corresponding backup key file.

Backup Key File A file generated during the backup process containing the key used to encrypt the backup file. This file is encrypted using the system master key. The master key is extracted from the core security backup file using a quorum of the key split credentials.

Backup Operator A user role that is responsible for securing and storing data and keys.

BOT Beginning of Tape.

C

CA See Certificate Authority (CA).

Certificate A Certificate is a digitally-signed document that serves to validate the holder's authorization and name. The document consists of a specially formatted block of data that contains the name of the certificate holder (Subject DN), a serial number, validity dates, holder's public key, Issuer's DN, and the digital signature of the Issuer for authentication. The Issuer attests that the holder's name is the one associated with the public key in the document.

Certificate Authority (CA) A Certificate Authority registers end-users, issues their certificates, and can also create CAs below them. Within KMS 2.0, the KMAs themselves act as the certificate authority to issue certificates to users, agents, and other KMAs.

Cluster A Cluster is a set of Key Management Appliances that are grouped together into a single system to enhance fault tolerance, availability, and scalability.

Communications key Adds another layer of encryption and authentication during transmission over a LAN from the token to the drive.

Compliance Officer A user role that manages the flow of data through your organization and can define and deploy data contexts (Key Groups) and rules that determine how data is protected and ultimately destroyed (Key Policies).

Critical Security Parameter Security-related information (for example, secret and private cryptographic keys, and authentication data such as passwords and PINs) whose disclosure or modification can compromise the security of a cryptographic module.

Crypto-Accelerator A Crypto-Accelerator is a hardware device (a card) that can be used to increase the rate of data encryption/decryption, thereby improving system performance in high demand conditions.

Crypto-active And encryption-capable tape drive that has had the encryption feature turned on in the drive.

Crypto-ready A tape drive that has the ability to turn on device encryption and become encryption-capable.

Cryptography The art of protecting information by transforming it (encrypting) into an unreadable format, called cipher text. Only those who possess a special *key* can decipher (decrypt) the message into its original form.

Cryptoperiods The length of time in which a key can be used for encryption. It starts when the key is first assigned to the drive. This value corresponds to the "Originator Usage Period" in NIST 800-57.

D

Data Unit Data units are abstract entities within the KMS that represent storage objects associated with KMS policies and encryption keys. The concrete definition of a data unit is defined by the Encryption Agent that creates it. For tape drives, a data unit is a tape cartridge.

Device key Enables the tape drive for encryption. KMS Version 1.x term.

E

EKT Enabling key token (device keys). KMS Version 1.x term.

Enable key Unique 64 character key used to enable the tape drive. See also PC Key.

Encryption The translation of data into a secret code. Encryption is one of the most effective ways to achieve data security. To read an encrypted file, you must have access to a special key or password that enables you to decipher it.

F

FIPS Federal Information Processions Standards. The National Institute of Standards and Technology (NIST) is a non-regulatory federal agency within the U.S. Commerce Department's Technology Administration and Laboratories, which develops and promotes standards and technology, including:

- Computer Security Division and Resource Center (CSRC)
- Federal Information Processing Standards (FIPS)

For more information visit:
http://www.nist.gov/

G

GUI Graphical User Interface.

H

Hash Message Authentication Code (HMAC) In cryptography, a keyed-Hash Message Authentication Code, or HMAC, is a type of message authentication code (MAC) calculated using a cryptographic hash function in combination with a secret key.

I

Internet Protocol (IP) A protocol used to route data from its source to its destination in an Internet environment.

Internet Protocol (IP) address A four-byte value that identifies a device and makes it accessible through a network. The format of an IP address is a 32-bit numeric address written as four numbers separated by periods. Each number can be from 0 to 255. For example, 129.80.145.23 could be an IP address.
Also known as TCP/IP address.

K

Key A key in this context is a symmetric data encryption key. Agents can request new key material for encrypting data corresponding to one or more Data Units. A key belongs to a single Key Group so that only Agents associated with the Key Group can access the key. Keys have encryption and decryption cryptoperiods that are dictated by the Key Policy associated with the Key Group of the particular key. The type of key (that is, its length and algorithm) is specified by the Encryption Agent.

Keys A random string of bits generated by the key management system, entered from the keyboard or purchased. Types of keys include:

- Device keys enable the tape drive encryption feature.
- Media keys encrypt and decrypt customer data on a tape cartridge.
- PC Keys enable the tape drive for encryption.
- Communication key adds another layer of encryption (authentication) to the media key during transmission over the LAN from the token to the drive.
- Split keys are unique to each drive and work with the wrap key for protection.
- Wrap keys encrypt the media key on the LAN and the token.

Key Group Key Groups are used for organizing keys and associating them with a Key Policy. Key Groups are also used to enforce access to the key material by the Encryption Agents.

Key Management Appliance (KMA) A SunFire X2100-M2 server preloaded with the KMS 2.0 software. The appliance is a proven, dual-core processor with a Solaris 10 operating system that delivers policy-based key management and key provisioning services.

Key Management System (KMS) A system providing key management. The Sun/StorageTek system has a KMS component providing key management on behalf of encryption agents.

Key Policy A Key Policy provides settings for the cryptoperiods to be applied to keys. Each Key Group has a Key Policy, and a Key Policy may apply to zero or more Key Groups. The encryption and decryption cryptoperiods specified on the policy limit the usage of keys and trigger key life cycle events, such as the deactivation or destructions of keys.

Key Policies also control where keys governed by the Key Policy can be exported to other Key Transfer Partners or imported from other Key Transfer Partners.

Key Transfer File A file containing keys and associated data units (if defined) used to move key material from one KMS Cluster to another. Both parties to the transfer must configure a key transfer partner of the other party to the exchange. The key transfer file is signed and encrypted to ensure both privacy of the transferred information as well its integrity.

Key Transfer Partner The Key Transfer Partner is the recipient of keys being exported from one KMS to another.

KMA See Key Management Appliance.

KMS See Key Management System.

KMS Cluster A set of one or more interconnected KMAs. All the KMAs in a KMS Cluster should have identical information. This will not be the case only when a KMS is down, or when a newly created piece of information has not yet propagated through all KMAs in the KMS Cluster. An action taken on any KMA in the KMS Cluster will eventually propagate to all KMAs in the KMS Cluster.

M

Media key Encrypts and decrypts customer data on a tape cartridge.

N

network An arrangement of nodes and branches that connects data processing devices to one another through software and hardware links to facilitate information interchange.

NIST National Institute of Standards and Technology.

O

OKT Operational key token (media keys). KMS Version 1.x term.

Operator A user role responsible for managing the day-to-day operations of the system.

P

PC Key Enables the tape drive to read and write in encrypted mode.

R

Read key This is a media key that is used when reading data from a tape.

Rijndael algorithm An algorithm selected by the U.S. National Institute of Standards and Technology (NIST) for the Advanced Encryption Standard (AES). Pronounced “rain-dahl,” the algorithm was designed by two Belgian cryptologists, Vincent Rijmen and Joan Daemen, whose surnames are reflected in the cipher's name.

RSA In cryptography, **RSA** is an algorithm for public-key cryptography created by Ron Rivest, Adi Shamir, and Leonard Adleman at MIT. The letters **RSA** are the initials of their surnames.

S

Secure Hash Algorithms (SHA) Secure Hash Algorithms are cryptographic hash functions designed by the National Security Agency (NSA) and published by the NIST as a U.S. Federal Information Processing Standard.

Security Officer A user role that manages security settings, users, sites, and Transfer Partners.

Security Policy A rigorous statement of the sensitivity of organizational data, various subjects that can potentially access that data, and the rules under which that access is managed and controlled.

Shamir's Secret Sharing An algorithm in cryptography where a secret is divided into parts, giving each participant its own unique part, where some of the parts or all of them are needed in order to reconstruct the secret. Counting on all participants to combine together the secret might be impractical, and therefore a quorum or threshold scheme is used.

Site A site is an attribute of each KMS and Encryption Agent that indicates network proximity, or locality. Encryption Agents should try first to contact a KMA at the same site, then try to contact a KMA at a different site if no KMA at the local site responds.

System Dump A user-invoked operation that results in all the relevant data being collected into a single file and then that file being downloaded to the machine from which the user invoked this operation. Once the download is complete, this file is deleted from the KMA.

T

T10000 tape drive The T10000 tape drive is a small, modular, high-performance tape drive designed for high-capacity storage of data—up to 500 gigabytes (GB) of uncompressed data.

Token KMS Version 1.x term.
Tokens are handheld, intelligent devices that connect to a token bay with an Ethernet connection. The two roles of the tokens are:

- Enabling key token
- Operational key token

Token bay KMS Version 1.x term.
A chassis that houses the physical tokens and provides power and connectivity for one or two tokens through the rear blind-mating connector. The token bay is compatible with a standard 19-inch rack—a 1U form factor. The token bay comes in two styles: desktop and rack-mount.

Transport Layer Security (TLS) A cryptographic protocol that provide secure communications on the Internet for such things as web browsing, e-mail, Internet faxing, instant messaging and other data transfers.

U

UID A string that serves as a unique identifier for a KMS entity, e.g. an encryption agent or user.

Ultra Tape Drive Encryption Agent Ultra 2.0 compliant encrypting tape drives utilize Ultra Tape Drive Encryption Agent software for key management. These drives acquire key material from the KMS to be used with tape volumes. Each write from BOT results in the use of fresh key material being used for encryption of data on the volume. Consequently, the definition of a data unit maps to a tape volume where the external ID of the data unit is the volume serial number.

UTC Coordinated Universal Time.

V

Volume Serial Number A six-character alphanumeric label used to identify a tape volume.

W

Wrap key Encrypts the media keys on the LAN and on the token.

Write key This is a media key that is used when writing data to a tape.

Z

Zeroize To erase electronically stored data, cryptographic keys, and Critical Security Parameters by altering or deleting the contents of the data storage to prevent recovery of the data.

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